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ABSTRACT

Educators in Virginia have been working hard to improve student performance. Their efforts are highlighted in this report, which notes trends and common practices in schools that have consistently demonstrated high achievement and in schools that have shown remarkable improvement in recent years. The first section of the report presents a historical perspective on education in the United States that includes a discussion of failed education reforms of the past. The second section assesses educational achievement in Virginia in comparison with national averages. A section titled "The Virginia Honor Role" highlights public school divisions that have outperformed others in the "top performers" category of consistent achievement and the "rising stars" category of recent improvement. The "Analysis and Recommendations" section discusses a number of current issues in education, such as instructional grouping, instructional techniques, and school choice. Other sections suggest topics for future research and describe the methodology used in this study of Virginia schools. A blank report card for evaluating the reader's own school division is provided. The first four appendixes contain data on the high achieving school divisions identified in this study. The latter five appendixes contain the data required to fill in the blank report card for the individual school division. (Contains 16 tables, 4 graphs, and 38 appendix tables.) (SLD)

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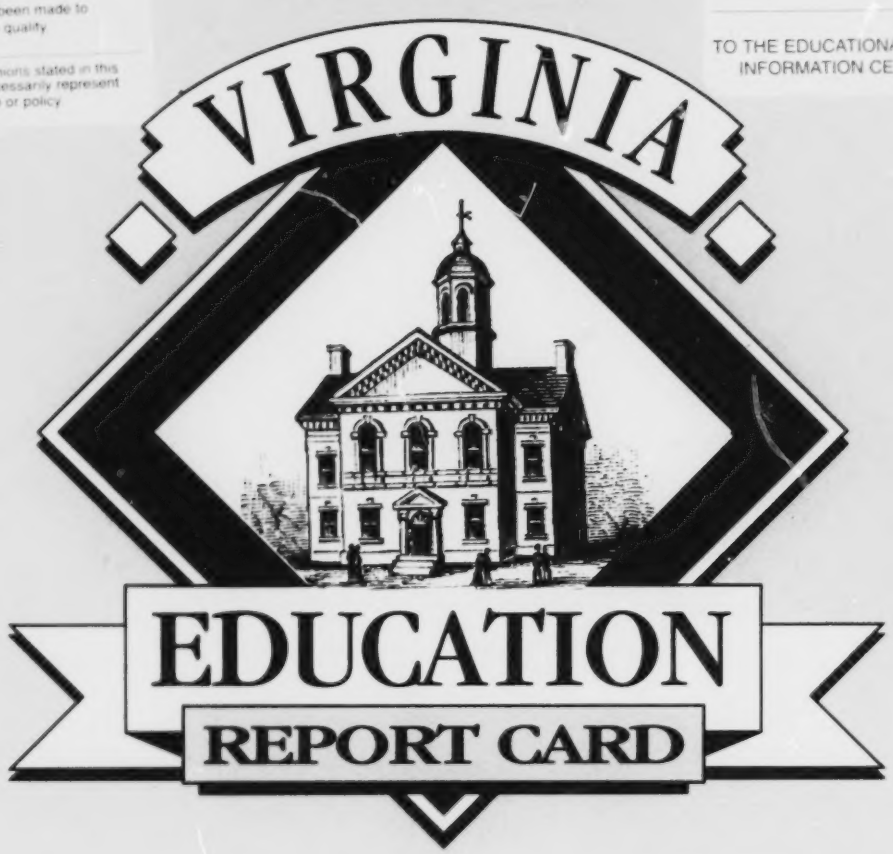

A Report on the Status of Public Education in Virginia and What Works

Cheri Pierson Yecke

The Family Foundation

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Virginia Education Report Card

A Report on the Status of Public Education in Virginia and What Works

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Words inadequately express the depth of our appreciation for the incredible work and dedication of the chief researcher and primary author for this study, Cheri Pierson Yecke of Stafford, Virginia. Former Stafford Teacher of the Year, author, and speaker, Mrs. Yecke is currently a candidate for a Ph.D. in Education at the University of Virginia. Her training and expertise in educational research, as well as her tenure as chairman of the Education Report Card subcommittee of the Governor's Commission on Champion Schools and her distinguished service on the State Board of Education, brought professionalism, integrity, and a keen insight on educational issues to this project. Mrs. Yecke has refused to accept any remuneration for these long, intense months of research, interviews, analysis and writing. We also thank her husband, Dennis, for his technical assistance in organizing her data onto spreadsheets for the extensive appendices in this report. Their example, in many ways, is typical of the kind of dedication and commitment we find among those across the Commonwealth who work so tirelessly to strengthen the families of Virginia.

The Family Foundation is also grateful for our dedicated staff, and for the able research, assistance, and insight provided by Margaret Bocek, our Education Policy Director, whose valuable background includes service on the Governor's Commission on Champion Schools and Arlington, Virginia school board. We are grateful, too, for the patience of our researchers' spouses and children.

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October 1996

P. George Tryfiates
Executive Director

Walter E. Barbee
President

Foreword

The Virginia Education Report Card: Its Significance for Virginia and the Nation

Virginia has become a leader in true education reform, and has done so without federal direction or funding. What does this mean for Virginia? For our nation?

One example of Virginia's leadership can be found in the comparison between the national standards movement and the establishment of new Virginia standards. The 1995 Virginia Standards of Learning have been hailed nationwide as a model of rigorous and challenging standards. A recent in-depth study by the American Federation of Teachers found that only eight states and the District of Columbia "have exemplary standards in one or more subjects…Virginia, however, received top honors for its standards in all four disciplines."[1] These standards were written by members of the State Board of Education, the Governor's Commission on Champion Schools, the Virginia Department of Education, parents, professional educators, and citizens. This was a joint community effort by civic-minded individuals who volunteered their time.

By contrast, a recent federal effort to produce the National History Standards was conducted under federal contract by a group of revisionist historians at the University of California at Berkeley - at a cost of $2.2 million.[2] Those standards were widely repudiated and soundly rejected, even being condemned by the U.S. Senate in a 99 to 1 vote.

The development of a new Virginia assessment system, based upon the Standards of Learning approved in 1995, is now in progress. The new assessments are expected not only to allow for accountability of students, but for teachers and administrators, as well.

In anticipation of these many challenges, Virginia educators have been working earnestly at improving student performance. These efforts are highlighted in the **Virginia Education Report Card**. Trends and common practices have been noted among two groups of divisions: those which have consistently demonstrated high achievement, as well as those which have shown remarkable improvement over the past few years.

One purpose of the **Virginia Education Report Card** is to recognize those divisions whose students have excelled in the pursuit of high academic achievement and to document those practices present in these high achieving divisions.

Some of the results of this study are surprising, and may challenge the prevailing wisdom and most common practices utilized in some schools. These findings are relevant to parents, educators, taxpayers, and anyone else interested in high quality education, outstanding student performance, and responsible stewardship of public funds.

It is hoped that the findings reported in this study will help to encourage dialogue among parents, students, members of the public, and educators, and will stimulate further study and research as to the generalizability of these findings. Additionally, it is hoped that the educators, communities and students in those divisions which have been singled out for their commitment to excellence and high academic performance will be recognized and honored for their achievements.

Executive Summary

The report card has long been an integral part of American education. Generations of parents have used the report card to see how well or how poorly their children were performing. And for generations, children have eagerly presented their report cards to their parents, proud of their accomplishments - while at other times they have been less than eager, well aware of the consequences awaiting them.

There is a growing concern among parents, taxpayers, and the public at large that they are not being kept as fully informed as they would like to be on the state of their public schools. In fact, the American Legislative Exchange Council declared that "no other institution in American society, public or private, does such a poor job of evaluating its performance as does American education."[1]

Any worthwhile analysis takes into account both inputs and outcomes. When a business assesses how well it is doing, one of the things it looks at is the bottom line: Have new investments produced the desired results? If so, then the business will conclude that its changes were worthwhile, and will continue down the same path. If not, the business will reassess the situation and change course.

There were several goals in undertaking the **Virginia Education Report Card** study. One was to recognize those divisions whose students have excelled in the pursuit of high academic achievement. Another was to discover and document any similarities present in these high achieving divisions. Yet another was to look for a correlation between inputs and results. And finally, it was hoped that these findings would stimulate public dialogue on the topic of education reform and the mission of public schools in Virginia.

The **Virginia Education Report Card** is divided into several sections:

Historical Perspective

This section provides an historical perspective to this study, beginning by highlighting current data on the status of literacy in America. It then contrasts beliefs about the expectations and purpose of public education, listing issues which are important to parents and summarizing the responses of educators and policy makers.

Failed education reforms of the past are discussed in the context of the need for research which provides empirical evidence from unbiased sources. The foundational issue of public trust is visited, closing with a suggestion to examine the "back-to-basics" path chosen by many of the high achieving divisions in this study as a potentially valid course of action.

Report Card: Virginia and the Nation

In this section, Virginia's educational investments are assessed in comparison with national averages, and Virginia is ranked against other states. Multiple measures were used to determine both investments and results.

The Virginia Honor Roll

This section highlights those Virginia divisions which have outperformed others in terms of student achievement. These are called the "High Achieving" divisions. There are two groups of high achieving divisions: the **Top Performers**, which are those divisions having the highest and most consistent student achievement over time, and the **Rising Stars,** which are those divisions which demonstrated statistically significant gains in achievement during the last four years and which now score at or above the state average. (For a more detailed description, refer to the Methodology section.)

One goal of this research project was to look for and identify factors common to the high achieving school divisions. To that end, the following questions were explored: What are some common traits of these high achieving divisions? Which educational practices do they share? How are they alike demographically? How might the successful practices of some high achieving divisions be adapted for use by others?

Analysis and Recommendations

The findings of this research project are discussed and analyzed in relation to current educational research, and recommendations are suggested.

Issues discussed include the following:

- The Correlation Between Funding and Achievement
- Educational Innovations
- Phonics vs. Whole Language
- Block Scheduling
- Ability Grouping
- School Size
- The Uses of Testing
- Accountability
- School Choice
- The Purpose of Public Education

Future Research

This section suggests several topics for future research which would augment and extend the information learned from this study.

Methodology

This section provides the technical description of the quantitative analysis and quantitative procedures which were used in this study.

Education Report Card for Your School Division

A blank "Report Card for Your School Division" is included for the use of Virginia readers who wish to grade their own school divisions and compare the performance of their divisions to state averages.

Appendices A through I

Appendices A through D contain data on the high achieving school divisions identified in this study. Appendices E through I contain the data required to fill in the "Report Card for Your School Division."

Historical Perspective

As citizens, we have a moral and ethical responsibility to prepare our young people for the future. We do so not only for the enhancement and development of their own potential, but to transmit our values, culture, and heritage to the next generation in order to preserve our liberties and guarantee the continuation of our national existence.

This is a responsibility which parents and guardians cannot blindly delegate to our neighbors, our school boards, or to the federal government.

As Virginians, we can proudly look to the words of wisdom left for us by our founding fathers, all of whom placed a fundamental importance upon the value of education.

Thomas Jefferson, author of the Declaration of Independence, third President, and founder of the University of Virginia, declared that a strong educational foundation was essential:

> ***"If a nation expects to be ignorant and free,***
> ***in a state of civilization,***
> ***it expects what never was and never will be."***
> *Thomas Jefferson, January 6, 1816*

George Mason expressed his belief in the cultivation of virtues and civic duty in many of his writings, but never as eloquently as in the Virginia Declaration of Rights:

> ***"That no free government, or the blessing of liberty,***
> ***can be preserved to any people,***
> ***but by a firm adherence to***
> ***justice, moderation, temperance, frugality and virtue,***
> ***and by frequent recurrence to fundamental principles."***
> *George Mason, Virginia Declaration of Rights, 1776*

What are these fundamental principals? Certainly, one cannot discern what they are without the foundation of a quality education.

And the Constitution of Virginia is quite clear as to the role of the Commonwealth in education:

> ***"That free government rests, as does all progress,***
> ***upon the broadest possible diffusion of knowledge,***
> ***and that the Commonwealth should avail itself***
> ***of those talents which nature has sown so liberally***
> ***among its people***
> ***by assuring the opportunity for their fullest development***
> ***by an effective system of education***
> ***throughout the Commonwealth."***
> *Constitution of Virginia: Article I, Section 15*

The Need for Literacy

Recognizing that the ability to read, write and think for ourselves is absolutely essential for the preservation of our freedoms, Americans have been measuring adult literacy since 1790, when we began taking the national census. One piece of information gathered was the number of adult citizens who could read and write. Each census showed an increase in literacy until 1940, when the census showed a literacy rate of 97%. Census reports at that time revealed that the 3% (4 million adults) who could not read or write had never attended school. Anyone who had attended school – for even two or three years – could read and write. Literacy and school attendance correlated 100%.[4]

> "If people cannot write well, they cannot think well, and if they cannot think well, others will do their thinking for them."
>
> *George Orwell*

Actual literacy rates taken at the onset of World War II, when inductees were tested, confirmed the census results. However, ten years later, by the Korean War, military tests showed an illiteracy rate of 10 to 15 percent. Twenty-five years later, during the Vietnam War, illiteracy had risen to 25 percent and today the rate is closer to 30 percent.[5]

There is ample evidence from other sources to substantiate this alarming decline:

- The latest *National Assessment of Educational Progress* (NAEP) tests reveal that only 25% of the children tested in the 4th, 7th, and 11th grades can read at acceptable levels.

- The *National Assessment of Education Progress* (NAEP) also reports that 93.6% of high school seniors tested cannot solve multi-step mathematics problems and use basic algebra.[6]

- In 1993 the *National Survey of Adult Literacy* reported that more than 40 million American adults cannot read or write. Another 50 million are functionally illiterate: that is, they can only read at an elementary level or can write their names, but little else.[7]

> "The vocational training we don't mind doing. I think today, to have to go back and train people on the remedial skills is an investment we wish we didn't have to make."
>
> *Gordon Fee*
> *Corporate President,*
> *Lockheed Martin*

- Lockheed Martin spends $1 million annually to remediate workers who are deficient in basic skills. Corporate President Gordon Fee declares: "The vocational training we don't mind doing. I think today, to have to go back and train people on the remedial skills is an investment we wish we didn't have to make."[8]

- According to the 1996 *American Management Association Survey* of the major U.S. companies which test basic skills of entry-level workers and job applicants, 48% of job applicants flunked a test of basic math skills. And among those tested only for literacy, 32% of job applicants lacked the reading skills needed to do the jobs they sought.[9]

- This same survey indicated that 87% of those companies which test would-be employees *would not hire applicants deficient in basic skills.*[10]

- The chief executive officer of Pacific Telesis reports: "Only four out of every ten candidates for entry-level jobs are able to pass our entry exams, which are based on a seventh grade level."[11]

- Industry and the armed forces spend over $30 billion per year on remedial courses -- not on job skills, or workplace skills, but on reading, writing and computational skills that the schools were supposed to have taught.[12]

> "Only four out of every ten candidates for entry-level jobs are able to pass our entry exams, which are based on a seventh grade level."
>
> *CEO, Pacific Telesis*

- It is reported in *Statistical Abstracts of the United States: 1988* that 47% of all patents issued by the U.S. Patent Office were to foreign individuals or foreign companies.[13]

- Richard C. Notebaert, Chairman of Ameritech, notes that he hires only one out of every ten people interviewed for positions with his company. "The ones we don't hire – we don't hire because they can't pass the [basic skills] test," he states. "We don't want the educational system to be a technical school. We just want it to provide the basic skills."

> "We don't want the educational system to be a technical school. We just want it to provide the basic skills."
>
> *Richard A. Notebaert Chairman, Ameritech*

The Fundamental Issue: What is the Purpose of Public Education?

Some educators, such as Dr. Nel Noddings of Stanford, are critical of what they perceive as "the *deadly notion* that the schools' first priority should be intellectual development."

Today, there appears to be a profound difference of opinion as to the purpose of public education. Is it to make children literate, or is it to make them feel good about themselves? Is it to guide their intellectual development (with self-esteem a by-product of achievement), or is it to socialize them? Is it to provide academic training for personal and career fulfillment, or is it to be a one-stop shop for social services? Is it to prepare future citizens capable of logical, cause-and-effect analysis, or is it to organize students for a few hours of community service?

Some educators, such as Dr. Nel Noddings of Stanford, are critical of what they perceive as "the *deadly notion* that the schools' first priority should be intellectual development"[14] (emphasis added). Such individuals apparently see public education as the new surrogate parent, whose primary role is to "socialize," not educate.

Parents in Fairfax County, Virginia received that news firsthand in an article by the principal of Oakton High School in the PTA newsletter:

> *"The institution known as 'school' is no longer the place where American youth become educated but rather the place where American youth become socialized. Education is just one facet of socialization.*
>
> *"The ever-expanding role of the school has brought ever-expanding responsibility to those who run those schools. Ethics, once taught at the dinner table or communion table, must now be taught at the cafeteria table or seminar table."*[15]

The views of educators such as these often clash with what parents and the public believe the primary focus of education should be.

First Things First: What Americans Expect from the Public Schools, found that many Americans "question whether those 'in charge' really share the public's goals," and conclude that "overall, the public seems to have a more traditional view of what should be happening in the classroom."

An independent, non-partisan organization, Public Agenda, has spent several years conducting in-depth public surveys. Their 1994 report, First Things First: What Americans Expect from the Public Schools, found that many Americans "question whether those 'in charge' really share the public's goals," and concludes that "*overall, the public seems to have a more traditional view of what should be happening in the classroom*"[16] (emphasis added).

The fact that parents and taxpayers are beginning to speak out concerning the direction and future of public education is a healthy sign.

Are Parents Being Heard?

The author of "Back to the Basics: The Movement and Its Meaning," an article which appeared in the education journal Phi Delta Kappan, notes that most back-to-basics advocates feel strongly about specific issues, as he outlines in the following twelve points:

1. **Emphasis on reading, writing, and arithmetic in the elementary grades. Most of the school day is to be devoted to these skills. Phonics is the method advocated for reading.**

2. **In the secondary grades, most of the day is to be devoted to English, science, math, and history, taught from 'clean' textbooks, free of notions that violate traditional family and national values.**

3. **At all levels, the teacher is to take a dominant role, with 'no nonsense about pupil-directed activities.'**

4. **Methodology is to include drill, recitation, daily homework, and frequent testing.**

5. **Report cards are to carry traditional marks (A, B, C, etc.) or numerical values (100, 80, 75, etc.), issued at frequent intervals.**

6. **Discipline is to be strict...Dress codes should regulate student apparel and hair styles.**

7. **Promotion from grades and graduation from high school are to be permitted only after mastery of skills and knowledge has been demonstrated through tests. Social promotion and graduation on the basis of time are out.**

8. **Eliminate the frills...**

9. **...and increase the number of required courses.**

10. **Ban innovations ...**

11. **Eliminate the school's 'social services' - they take time away from the basic curriculum...**

12. **Put patriotism back into the schools. And love for one's country. And for God.**[17]

Most people would agree that many of these issues *do* help to define what it is that parents want. However, most of them would also be surprised to learn that this article was published nearly *two decades* ago, in 1977.

According to a 1975 Gallup poll on education, 60% of all parents surveyed would send their children to public schools which emphasized the basics and employed strict discipline, if they had the choice.[18] In 1995, twenty years later, a Public Agenda poll found little change in the percentage of dissatisfied parents: 57% of all parents surveyed stated that they would send their children to private schools if money were not an issue.[19]

What is the source of discontent for parents in the 1990s? It may be found in the differing purposes reformers and the public have for public education. According to Public Agenda: "Americans see basics as the most important teaching goal for any school. And for the public, this goal is non-negotiable…Nine in ten Americans (92%) say teaching the basics is 'absolutely essential.'"[20] While at the same time, "to Public Agenda's surprise, no finding has elicited so much dismay among education reformers as the public's continuing preoccupation with teaching children the basics."[21]

> "Americans see basics as the most important teaching goal for any school. And for the public, this goal is non-negotiable."
> *Public Agenda*

It is also interesting to note the views of teachers and administrators. There is a profound level of support among these groups for a focus on basics: 98% of the teachers surveyed and 100% of the administrators agreed "that the basics are absolutely essential."[22] These numbers match the public's nearly unanimous support of the basics as well, making it appear as though there is no reason for disagreement.

However, there is a large discrepancy in the evaluation of *whether or not the basics are actually being taught.* A majority of the public (60%) feels that "the schools are not placing enough emphasis on the basics." Compare this to the finding that the majority of teachers (66%) believe the schools *are* placing enough emphasis on the basics.[23]

It is of interest to note that the sentiments of Virginians echo those of the nation at large as reported in the Public Agenda findings. In an open-ended survey completed by members of the public at the Standards of Accreditation hearings in the summer of 1996, the following question was asked: "What do you think schools do not do as well as they should?" The most frequent response was "to fully prepare students in the basics – the core academics."[24]

Researchers also note the mounting frustration over the amount of time being spent on new fads, such as the teaching of self esteem. One researcher has concluded that "Inevitably, accommodating the new fads squeezes the time available for teaching reading, writing, and arithmetic. There are simply not enough hours in the day, and it's the basics that seem to be suffering."[25]

Testimony presented in the mid-1970s to the U.S. Commission on Education Governance included the following:

"The frustration of seeing a simple goal, such as reading, be continually pushed just out of the parents' reach while precious time passes and children's attitudes harden toward school, brings out a level of concern in parents equal to someone causing them physical harm. Seeing the education needs of a child as a parent sees them is not an easy task for professional educators. The gap between how well most educators think they accomplish this feat and how well parents think they accomplish it is much wider than I ever thought."[26]

Many would argue that the perceived gap has only widened in the past quarter century. Here we are, after over two decades of debate, and new generations of parents are fighting many of the same battles *their own parents* fought on their behalf. The education establishment apparently was not listening twenty years ago. The question is: Are they listening now?

Historical Background

In 1983, the publication of A Nation at Risk alerted the American public to the sharp decline in the academic performance of American students, stating that society had "lost sight of the basic purposes of schooling, and of the high expectations and disciplined effort needed to attain them." It continued: *"If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war."*[27]

A flurry of reform activity soon followed. Many well-intentioned educators, hungry for improvement and with good intentions, bought into reform and restructuring programs which looked exciting and promising. As Dr. Stanley Pogrow of the University of Arizona points out: "Whenever a new reform idea is presented, it is usually made to sound revolutionary."[28]

The problem is that many of these so-called reforms had never been thoroughly and adequately researched, and therefore were still experimental. However, a climate of crisis had been created, and "in the absence of specific, systematic interventions that work, reformers become obsessed with getting everyone on board."[29]

The haste with which the reformers presented their wares should have made more educators and legislators wary. One would think that, when advocating a change that might have a profound impact on American education, reformers would have conducted many carefully controlled, long-term studies of students in pilot districts. Such was not the case.

> "In the absence of specific, systematic interventions that work, reformers become obsessed with getting everyone on board."
>
> *Dr. Stanley Pogrow*
> *University of Arizona*

When a business introduces a new product or procedure, there is an integral connection between how it performs and whether it is worth the cost. In other words, when a business wants to evaluate the success of a new program or product, it evaluates two things: results and the bottom line. It is obvious from the growing numbers of dissatisfied parents that the results in "reform" districts do not support the dubious claim that many of the current reforms will raise student performance, in spite of the millions of dollars already spent on the implementation of these theories.

Intuitive and anecdotal parental concerns are now being supported with empirical evidence: "Reports of research on the innovations of the late 1980s and early 1990s are starting to appear, and are generally disclosing failure."[30]

Many policy makers have likewise admitted, for some time now, that the new reforms are experimental. State Senator Ed Ford, a supporter of such reforms in Kentucky, made this sobering statement in 1992: "It will be at least a generation before we know whether it has worked or not."[31]

The sad truth about some education reform and restructuring efforts is that the American public has been misinformed and misled as to both the nature of the movement and the Pandora's Box of problems it has opened up. Many of the reforms being promoted in this country were tried in both Sweden and England during the 70s and 80s.

After over two decades and billions of dollars spent, both countries entered the 90s by abandoning these reforms in favor of returning to a more traditional type of education.

England embarked on educational reform in 1967 with the publication of the Plowden Report, which established a child-directed model called open or progressive education. But after twenty-five years the approach was abandoned in 1992. Test scores had dropped and discipline problems had increased. Furthermore, researchers there determined that the children who were hurt the most by these progressive policies were those from the lowest socio-economic groups, as the "progressive" educational philosophy was inconsistent with a belief in self-discipline and effort, and therefore prevented social mobility. [32] Such reforms were declared to be discriminatory.[33] Yet even with this evidence, similar reforms are actively promoted in this country.

The children who were hurt the most by these progressive policies were those from the lowest socio-economic groups, as the "progressive" educational philosophy was inconsistent with a belief in self-discipline and effort, and therefore prevented social mobility. Such reforms were declared to be discriminatory. Yet even with this evidence, similar reforms are actively promoted in this country.

For example, the National Association for the Education of Young Children (NAEYC) promotes practices it declares to be "developmentally appropriate," but which many parents intuitively find uncomfortable: "Curriculum and instruction are designed to develop children's self-esteem."[34] Is this the purpose of curriculum and instruction? Can self-esteem be taught, or is it instead the by-product of achievement? "No letter or numerical grades are to be given during the primary years."[35] Then how are parents to know how well a child is doing – both in relation to grade level material and in relation to grade level peers? Practices which NAEYC labels "inappropriate" include assigning children "to learning centers to complete a prescribed sequence of teacher-directed activities within a controlled time period."[36] Since when are challenging tasks and self-discipline inappropriate? And how do such practices address the concern expressed in A Nation At Risk with "high expectations and (the) disciplined effort needed to obtain them?"

Many parents are intuitively uncomfortable with such practices, both for their own children and for those less fortunate: "To our shame, a disadvantaged child has a better chance for an equal and rigorous education, and whatever advancement it may bring, in Paris or Copenhagen than in one of our big cities," says author Paul Gagnon.[37]

England was not alone in its problems with new reforms. In the 1970s, Sweden implemented reforms which included the abolition of grades, claiming that grades promoted competition over cooperation. The school system pursued mass equality, but it did so at the expense of excellence. Although Sweden now spends more on education per student than any other country in the world, test scores have fallen into mediocrity.[38]

The liberal Progressives were voted out of power in the Swedish election in the fall of 1991, and one of the first changes to be instituted was a *true* reform of the educational system. The new Education Minister, Beatrice Ask, proposed returning to a more traditional educational structure, reintroducing grades, academic competition, and the study of traditional ethics.

She contends that her country made a mistake in trying to use schools to deliver social services, to eliminate competition, and to level expectations. "Swedish schools have diluted the quality of education by trying to do too much," she states. And she warned American educators to learn from Sweden's mistakes.[39]

> "Swedish schools have diluted the quality of education by trying to do too much."
>
> *Beatrice Ask*
> *Education Minister*

The current evidence and the lessons learned in Sweden (and elsewhere) have been lost on those American educators who bought into such programs. Many states, eager to improve their educational systems, have been misled into believing that certain reforms and innovations have a proven track record. Trusting the rhetoric of reformers and not investigating on their own, some educators allowed smooth talk and convincing presentations to mislead them into accepting the unproven as fact.

As Dr. Pogrow notes, many educators were "seduced into pursuing" current reforms by "a reform/academic/research community that is largely out of touch with reality."[40] He goes on to explain the strategies used by popular reformers:

> "What has emerged is a deeply disturbing picture of an American public and community leadership frustrated and angered by the state of public education."
>
> *Public Agenda*

"The scenario goes like this: a sense of urgency is created, and a new terminology is coined; a national fellowship develops among the believers; stories of success appear in a journal such as this Phi Delta Kappan; and a massive national network of training is created. The advocacy is driven largely by philosophy, with only a smidgen of technique or research supporting the idea. The word then goes out that the technique is supported by research."[41]

It is like a case of "The Emperor's New Clothes." The people of the kingdom did not want to appear ignorant, so they merely nodded their approval at his majesty like everyone else in the crowd. But the truth was that the Emperor was naked. And the truth about many of the new reforms is that they are not what their proponents suggest them to be.

And the result? According to Public Agenda:

"What has emerged is a deeply disturbing picture of an American public and community leadership frustrated and angered by the state of public education."[42]

Unheeded Warnings

Too often, those who promote and support many of the latest fads in education find they do not have facts and data to refute the arguments brought against such proposals. As a result, opponents often find themselves being labeled as radical members of an extreme "right wing" fringe group. Amazingly, manuals have been published and national conferences have even been held, at taxpayer expense,[43] to advise administrators and educators how to deal with the perceived "threat" from opponents, who are, for the most part, parents and citizens trying to express genuine concerns about their children's education.

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A careful historical analysis of the opposition to many of the current reforms bears out the legitimate concerns of parents, community members, and many educators.

Aside from eroding public trust and confidence in public education, such tactics divert attention away from substantive issues and diminish public cooperation and support. Such tactics tend to discredit serious researchers whose conclusions show the shortcomings of some of the current reforms, introducing hysteria and misinformation into what should be a scholarly analysis and debate. A careful historical analysis of the opposition to many of the current reforms bears out the legitimate concerns of parents, community members, and many educators.

More than a decade ago, a number of professionals foresaw what loomed on the horizon, but their warnings were, for the most part, ignored. One such educational expert was Dr. George Roche (currently the president of Hillsdale College), who served as the Chairman of the National Council on Education Research, a division of the U.S. Department of Education. He resigned his post in 1985, stating:

> *"For nearly four years, I have served as Chairman of the National Council on Educational Research. In that position, I have had the opportunity to observe close-hand the operations of the federal education establishment. During this period, I have become increasingly more convinced that federal efforts to intervene in the workings of the nation's school systems are ill-advised, wasteful, and counter-productive...*
>
> *"I have come to believe that entities such as the National Council of Education Research, and its parent, the National Institute of Education, are part of the problems plaguing America's educational systems, rather than part of the solution. The federal education bureaucracy...has become the captive of misguided and misinformed "educationists" who have sacrificed traditional instruction in the "three R's" and respect for Western cultural heritage in favor of pop-psychology and behavior modification as the goals of schooling...*
>
> *"The federal education bureaucracy...merely represents another layer of the "professionals" who have wedged themselves between parents and the schools...Increasingly over the last few decades, the education bureaucracy has come to believe that they, not parents, know best how to educate America's children. They have come to see themselves as "change agents" whose mission is to reform outmoded notions children have picked up from their parents and substitute instead a new system of values....And this questionable enterprise has been fostered and financed by the federal education establishment.*
>
> *"The energy devoted to these dubious pursuits has sapped the intellects of a generation. And only now are we beginning to understand the costs, both to our economy and our communities, that this experiment in social engineering has engendered."*[44]

An Issue of Trust

One of the foundations of American public education is that of trust between the parents and the schools. Parents have trusted that educators will do what is best for their children, but in too many cases that trust has been broken. There *are* some good reforms among the bad, but this breach of trust has left many parents suspicious of all educational innovations. And can we blame them?

> "Increasing numbers of educators and members of the public each believe the other has violated the unwritten contract long existing between them. Under this contract, educators agreed to educate America's children, and the public agreed to support them in their work. Today, neither group believes that the other is holding up its end of the bargain."
>
> *Public Agenda*

The public has viewed teaching the basics as "the schools' minimum contractual obligation,"[45] and feels as though that contract has been broken:

"Increasing numbers of educators and members of the public each believe the other has violated the unwritten contract long existing between them. Under this contract, educators agreed to educate America's children, and the public agreed to support them in their work. Today, neither group believes that the other is holding up its end of the bargain."[46]

Public Agenda has concluded that "public support, even for local public schools, is far more fragile than many educators would like to believe." And many educators have been "lulled into a dangerous and false complacency."[47]

A Course of Action

What can concerned citizens do? The tactics of some who support current reforms reveal a disdain for average Americans who spend all day working, only to come home to use their family time to fight against forces – *paid for by their own tax dollars* – which are intent upon implementing reforms with which they disagree. Concerned citizens are sacrificing their efforts and their personal time to organize grass roots groups in order to lobby their local school boards, local schools, and state legislatures for more responsive schools.

William Bennett notes that we have come to a critical crossroads in education, and that it is crucial for citizens to become actively involved. He states:

> *"What is critical is the task of regaining our institutions – and regaining our institutions not to then subject them to a narrow or rigid conservative ideology, but to let these institutions be governed by what works, by what makes sense, and by insisting that they remain true to their original purpose."*[48]

Although Bennett speaks of admirable goals, the question remains: How can we achieve them?

One answer may be found in the writings of C. S. Lewis:

> **"If you are on the wrong road,**
> **progress means doing**
> **an about-turn**
> **and walking back to the right road;**
> **and in that case**
> **the man who turns back soonest**
> **is the most progressive man...**
> **Going back is the quickest way on."** [49]
>
> ***C. S. Lewis***

"Going back is the quickest way on." Perhaps this best summarizes the strategies for success employed in Virginia's high-achieving school divisions. *Going back* to find the original research which indicates the strengths or weaknesses of popular new innovations, *going back* to proven methodologies, and *going back* to parents and empathetically listening to their concerns.

Those divisions which have implemented components of a more "back-to-basics" approach in the elementary grades tend to produce students with higher academic achievement.

The findings of this study suggest that many of those school divisions which have implemented components of a more "back-to-basics" approach in the elementary grades tend to produce students with higher academic achievement. Whether these educational decisions came about in response to parental demands, a critical review of the research, or by the intuitive instincts of administrators (one called it a "gut feeling"), the results are the same: high achieving students.

And it should be noted that "basics" does not mean one-room school houses, desks with inkwells, and cipher slates. Implementation of proven and time-tested methodologies have taken new and varied forms with creative uses of technology and innovative applications by devoted teachers. Through it all, the fundamental premise of using that which has been proven to work remains.

Conclusion

Through it all, the fundamental premise of using that which has been proven to work remains.

It is our hope that the findings reported in this study will encourage dialogue among the public, parents, students, and educators; will stimulate further study and research as to the generalizability of these findings; and will recognize and honor the educators and communities in those school divisions which have demonstrated their ability to produce academic excellence in public education.

Report Card:
Virginia and the Nation

Introduction

The following analysis looks at the educational inputs and educational results of both Virginia and the nation. National averages are compared with Virginia averages, and Virginia is ranked in reference to the other forty-nine states.

Educational Investments

Finances

Total educational expenditures in Virginia have risen at a higher rate than in the nation at large. (See Table 1.) Expenditures, adjusted for inflation, increased 41.4% over the last decade, putting Virginia seventeenth among the fifty states in terms of increased spending. Since 1970, that increase has been 103.9%, placing Virginia sixteenth in increased spending among the other states. During 1994-1995 Virginia spent more on education than 38 other states, ranking twelfth in total expenditures on education nationally.

Total educational expenditures in Virginia have risen at a higher rate than in the nation at large.

Table 1

Current Total Educational Expenditures
Virginia and the Nation
(adjusted for inflation)

	Nationwide	Virginia	Virginia's Ranking
Total expenditures (in millions of dollars) 1994/95 school year	$247,584	$5,724[1]	12/50
Percentage increase from 1985-1995	37.8%	41.4%	17/50
Percentage increase from 1970-1995	81.7%	103.9%	16/50

Source: Report Card on American Education. (1995). American Legislative and Exchange Council: Washington, D.C.

Virginia ranks in the middle in terms of per-pupil expenditures, spending $5,405 per student. (See Table 2.) However, when it comes to spending *increases*, Virginia ranked sixteenth with a 28.9% increase from 1985-1995, and seventeenth nationally with a 107.3% increase from 1970-1995.

[1] The reader may note an apparent logical discontinuity between total 1994/95 Virginia educational expenditure figures in Table 1 (from Table 159 of the1995 Digest of Educational Statistics from the U.S. Department of Education, as cited by the (American Legislative and Exchange Council) and a one-year interpolation of current biennium (1996-98) spending figures (see bottom of page 20) obtained from the Virginia Department of Planning and Budget. Whether such differences may be partially attributable to accounting methods, differences in budget allocation, and/or social services expenditure accounting is not known.

Table 2

Per-Pupil Expenditure Virginia and the Nation (adjusted for inflation)			
	Nationwide	Virginia	Virginia's Ranking
Per-pupil expenditures 1994/95 school year	$5,623	$5,405[a]	25/50
Percentage of increase from 1985-1995	22.7%	28.9%	16/50
Percentage of increase from 1970-1995	88%	107.3%	17/50

Source: Report Card on American Education. (1995). American Legislative and Exchange Council: Washington, D.C.

Virginia teachers averaged a 58.7% salary increase from 1985-1995, causing Virginia to rank nineteenth nationally in terms of teacher salary increases.

Average salaries for teachers in Virginia rose by 318.3% from 1970 to 1995, ranking Virginia twenty-ninth out of the fifty states in percentage of increase. Most of that large boost came in the first fifteen years of that period. In the most recent ten year period, from 1985 to 1995, average salaries increased less dramatically: 56.5% nationwide and 58.7% in Virginia, ranking Virginia nineteenth among the fifty states in percentage increase. (See Table 3.)

Table 3

Teacher Salaries Virginia and the Nation (actual dollars)			
	Nationwide	Virginia	Virginia's Ranking
Average salary 1994/95 school year	$36,933	$33,753	25/50
Average salary 1969/70 school year	$8,626	$8,070	25/50
Percentage increase from 1985-1995	56.5%	58.7%	19/50
Percentage increase from 1970-1995	328.2%	318.3%	29/50

Source: Report Card on American Education. (1995). American Legislative and Exchange Council: Washington, D.C.

[a] Please see note at the bottom of page 17.

Personnel

The pupil/teacher ratio in Virginia of nearly fifteen to one is far better than the national average, placing Virginia seventh among the fifty states. (See Table 4.)

Table 4

Pupil/Teacher Ratios Virginia and the Nation			
	Nationwide	**Virginia**	**Virginia's Ranking**
Pupil/teacher ratio Fall 1994	17.3/1	14.8/1	7/50
Percentage change from 1984-1994	-4.4%	-11.7%	8/50
Percentage change from 1969-1994	-23.5%	-34.1%	5/50

Source: Report Card on American Education. (1995). American Legislative and Exchange Council: Washington, D.C.

The rate of decrease in the number of pupils to teachers likewise places Virginia near the top nationally in its commitment to small class sizes.

One of the largest educational personnel changes over the past twenty five years has been in the number of non-teaching positions in our nation's schools. (See Table 5.) This category includes positions such as administrators, curriculum directors, guidance counselors, and maintenance personnel.

Table 5

Pupil/Non-Teaching Staff Ratios Virginia and the Nation			
	Nationwide	**Virginia**	**Virginia's Ranking**
Pupil/non-teaching ratio Fall 1993	18.9/1	17.7/1	18/50
Pupil/non-teaching ratio Fall 1969	33.9/1	34.5/1	28/50
Percentage change from 1984-1993	-8.6%	-10.8%	23/50
Percentage change from 1969-1993	-44.2%	-48.8%	14/50

Source: Report Card on American Education. (1995). American Legislative and Exchange Council: Washington, D.C.

In 1969, there were 33.9 students for every non-teaching staff member nationally, with 34.5 students for non-teaching staff members in Virginia. By 1993, that ratio had dropped to 18.9 students per non-teaching staff member nationally, and to 17.7 in Virginia. In 1969, Virginia ranked twenty-eighth among the fifty states in the number of non-teaching staff per student, but by 1993 that ranking had jumped to eighteenth. The percentage of change from 1969 to 1993 was 48.8%.

It is interesting to note that from 1970 to 1995, the total number of students enrolled in Virginia public schools decreased by 1.6%. During this time, the total number of teachers increased by 49.2% and the total number of non-teaching staff members increased by 89.6%.

It is interesting to note that from 1970 to 1995, the total number of students enrolled in public schools nationwide decreased by 3.3%. During this time, the total number of teachers increased by 26.3% and the total number of non-teaching staff members increased by 70.9%. (See Table 6.) Virginia was a part of this national trend. From 1970-1995, the number of students in Virginia schools decreased by 1.6%, while the number of teachers increased by 49.2%. During the same time period, the number of non-teaching staff increased by 89.6%.

Table 6

Comparison of Staff and Student Growth Over Time Virginia and the Nation

	Nationwide	Virginia	Virginia's Ranking
Percentage increase in student enrollment 1985-1995	12.3%	9.7%	23/50
Percentage increase of teachers 1985-1995	17.5%	24.2%	12/50
Percentage increase of non-teaching staff 1985-1994	21.3%	21.5%	19/50
Percentage change in student enrollment 1970-1995	-3.3%	-1.6%	20/50
Percentage increase in teachers 1970-1995	26.3%	49.2%	12/50
Percentage increase in non-teaching staff 1970-1995	70.9%	89.6%	15/50

Source: Report Card on American Education. (1995). American Legislative and Exchange Council: Washington, D.C.

Discussion

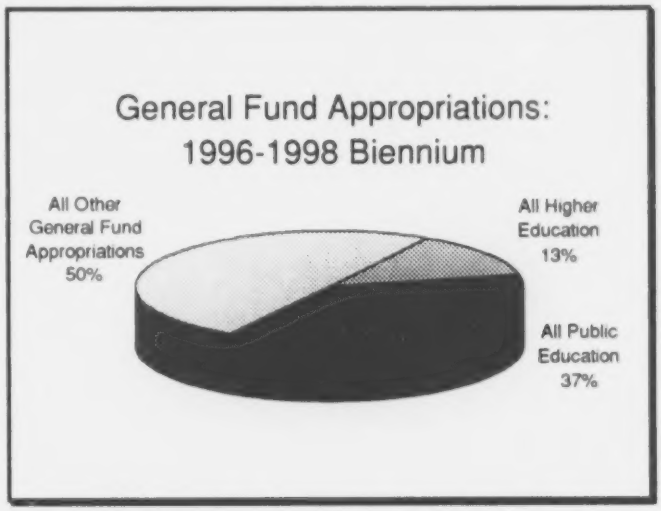
It is apparent that Virginia has made a dedicated commitment in the allocation of resources to education. In total expenditures, it ranks in the top twelve of all states, and in per-pupil spending and teacher salaries, it ranks in the top half. It also ranks among the top seven states in terms of low pupil/teacher ratios, and is among the top eighteen in terms of non-teaching staff.

All of this requires a substantial and growing allocation of the taxpayers' money.[m] Specifically, in the 1996-98 biennium, 50.67% ($8.4 billion) of Virginia's total operating budget is being spent on education, with 36.95% ($6,123,876,404) allocated for elementary and secondary education and another 13.21% ($2,189,308,429) allocated for higher education, with .51% allocated as "other." This represents a state spending increase of 14.14% for public education over the previous biennium.[50]

[m] Please see the note at the bottom of page 17.

In addition, cities and counties may spend half, or even more, of their local budgets on schools. For example, Fairfax County's school budget for 1997 takes 51% ($861.7 million) of the total county budget.[51]

Add to the above what the federal government spends on education and a more complete picture of the taxpayer costs of public education begins to emerge. The federal government spends $120 billion on education annually, and the total cost of education in America, from all sources, exceeds $474 billion each year.[52]



Source: Virginia Department of Planning and Budget

When federal, state, and local expenditures are combined, one sees that a significant amount of money is being spent to support our public schools. The bottom line, as any member of the business community would ask, is this: Are we getting results commensurate with the taxpayers' investment? Or, in other words, are Virginia students performing at levels as high as our monetary commitment?

Educational Results

The National Assessment of Educational Progress (NAEP)

Thirty-nine states participate in the National Assessment of Educational Progress (NAEP). These tests, given at grades four, eight, and twelve, assign three levels of achievement: advanced, proficient, and basic. To be considered "proficient" a student must demonstrate competence at the level of solid academic performance for his or her grade. According to the National Assessment Governing Board, the rating of proficient is the achievement level which all children should be able to meet.

In math, Virginia ranked twentieth out of the thirty-nine participating states in the percentage of students considered "proficient," with only 23% of students achieving the proficient rating in 1992.[iv] (See Table 7.) In 1990, only 21% of Virginia's students earned the proficient rating, but Virginia ranked twelfth out of thirty-nine states. Although Virginia showed a slight improvement in the percentage of students considered proficient in math, Virginia's ranking among the other states has dropped eight places since 1990.

In math, Virginia ranked twentieth out of the thirty-nine participating states in the percentage of students considered "proficient," with only 23% of students achieving the proficient rating in 1992.

[iv] The most current NAEP math scores are from 1992.

Table 7

National Assessment of Educational Progress (NAEP) Eighth Grade Math Scores for Virginia and the Nation			
	Nationwide	**Virginia**	**Virginia's Ranking**
NAEP Math scores 1992	266	267	18/39
NAEP Math scores 1990	262	264	14/39
Percentage of students ranked "proficient" 1992	23%	23%	20/39
Percentage of students ranked "proficient" 1990	19%	21%	12/39

Source: NAEP Mathematics Report Card for the Nation and the States. (1992). U.S. Department of Education, Office of Educational Research and Improvement: Washington, D.C.

In 1994, Virginia students displayed an eight point drop in reading scores, the largest decline in the nation.

In reading, Virginia ranked tenth out of thirty-nine states in 1992, and 28% of students were rated proficient. (See Table 8.) In 1994, *Virginia students displayed an eight point drop in scores, the largest decline in the nation.* Virginia's overall ranking dropped from tenth to nineteenth, and in terms of its decline in scores, *its ranking dropped to thirty-seventh out of the thirty-nine participating states.* It is interesting to note that the fourth grade students tested in 1994 began kindergarten shortly after Virginia dropped phonics textbooks from the state approved textbook list in 1989.

Table 8

National Assessment of Educational Progress (NAEP) Fourth Grade Reading Scores for Virginia and the Nation			
	Nationwide	**Virginia**	**Virginia's Ranking**
NAEP Reading scores 1994	213	214	19/39
NAEP Reading scores 1992	216	222	10/39
Change in scores from 1992-1994	-3	-8	37/39
Percentage of students ranked "proficient" 1994	24%	23%	19/39
Percentage of students ranked "proficient" 1992	24%	28%	9/39

Source: NAEP Reading: A First Look. (1994). U.S. Department of Education, Office of Educational Research and Improvement: Washington, D.C.

The Iowa Test of Basic Skills (ITBS)

The Iowa Test of Basic Skills (ITBS) is a norm-referenced test given annually to all Virginia students in grades four, eight, and eleven. Some divisions give this test to all students every year. Scores are reported as national percentile ranks, which means that a student with a score of 75 ranks above 75% of other students who took the test.

Since 1987, fourth grade scores have risen three points in reading, four points in science, five points in history (social studies), and six points in math. (See Table 9.) This growth is encouraging, but further analyses need to be performed to determine which, if any, of these gains are statistically significant,[v] and more study is also needed to determine which interventions brought about the gain in scores.

While the upward trend is encouraging, it is a concern that the average state reading score was only 56% in the most recent test. Math, history, and science are at least ten points higher.

Table 9

Iowa Test of Basic Skills:
National Percentile Ranks for Virginia's Fourth Grade Students

	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96
Reading	53	54	54	54	55	56	55	56	56
Math	60	60	62	62	64	63	63	66	66
History	60	59	61	63	64	65	64	65	65
Science	67	67	68	68	69	69	69	71	71

Source: Virginia Department of Education

At eighth grade, the gains are less pronounced. Scores in reading and history (social studies) both increased by one point and science increased by three points, while the math score dropped by two points. (See Table 10). Again, study is needed to determine if these changes in scores are statistically significant.

Table 10

Iowa Test of Basic Skills:
National Percentile Ranks for Virginia's Eighth Grade Students

	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96
Reading	54	54	55	55	56	56	55	56	55
Math	56	56	57	56	57	56	54	55	54
History	56	57	58	58	58	57	56	58	57
Science	59	60	61	60	61	61	60	63	62

Source: Virginia Department of Education

[v] Changes in scores can occur for a number of reasons. An increase or decrease in scores can be the result of chance, the result of the standard error of measurement, caused by regression to the mean, or such a change can be statistically significant. There are statistical procedures which can determine the difference. It is only when a gain is determined to be statistically significant that it can be said that some sort of outside intervention was the cause.

The news is more discouraging at eleventh grade. While math scores have remained fairly constant, reading has dropped by two points and history by four points. The only bright spot is science, where scores have risen by four points. Once again, further work is needed to ascertain the significance of these changes and their probable causes.

Table 11

Iowa Test of Basic Skills:
National Percentile Ranks for Virginia's Eleventh Grade Students

	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96
Reading	58	57	56	58	58	58	56	56	56
Math	56	56	57	58	58	57	56	56	56
History	61	61	61	61	60	60	57	58	57
Science	62	62	63	65	65	65	64	66	66

Source: Virginia Department of Education

Overall, Virginia students have shown stagnant performance on the Iowa Test of Basic Skills over the last nine years, with few notable gains. From 1995 to 1996, all percentile ranks remained the same both for grades four and eleven, with the exception of a one point drop in eleventh grade history/social studies. Over the same time, eighth grade scores dropped by one point in each academic area.

These scores suggest that, while Virginia students rank slightly above the national average in most areas, they do not rank above 72% in any area.

The Scholastic Aptitude Test (SAT)

There are two college entrance examinations: The SAT (the Scholastic Achievement Test, renamed the Scholastic Assessment Test when it was renormed in 1995) and the ACT (the American College Test). The ACT is the primary college entrance exam in 27 states, and the SAT is the primary one in 23 states.

The SAT is probably one of the most misused educational measurements of our time.

The SAT is probably one of the most misused educational measurements of our time. There is very little national attention paid when the ACT scores are announced, but when SAT scores are released the media generally presents a state-by-state comparison of scores. *This is an inappropriate use of the data.*

In some states, very few students take the SAT, and those who do are the highest ranking, most competitive students who must take the SAT for entrance into Ivy League schools. The percentage of students in each state who take the SAT has a great deal to do with that state's scores. For example, in Mississippi only 4% of all students take the SAT, and Mississippi's average score is 498 in verbal and 540 in math. Utah likewise has only 4% of its students taking the SAT, with an average verbal score of 513 and an average math score of 563. *Comparing those scores to Virginia's, where 65% of all graduates take the SAT, is a statistically invalid comparison.*

With the exception of West Virginia, all states which showed average scores of 500 or above on math and 460 or above on verbal were those states with fewer than 30% of their students taking the test. (See Table 12)

Table 12

1995 SAT Scores: A State-by-State Comparison by Numbers of Participants									
	Percentage of Graduates taking the SAT								
	0-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%
Number of states with students having an average math score of 500 or above	15	7	3	0	0	0	0	0	0
Number of states with students having an average verbal score of 460 or above	15	7	3	0	0	0	0	0	0

Source: College Board, 1995

A more valid analysis of SAT scores would be to compare scores among states where similar percentages of students took the test. (See Table 13.) *Considering only those ten states where 61-70% of all graduates took the SAT, Virginia scores have gone down, reflecting part of a national trend, and its rank has remained stagnant.* In 1985, Virginia ranked fifth out of those ten comparable states in both math and verbal, and retained the same ranking in its 1995 verbal scores. The 1995 ranking in math dropped to sixth place out of ten.

Table 13

A Comparison of SAT Scores Among the Ten States Where 61-70% of All Graduates Took the SAT			
	Ten State Average	Virginia	Virginia's Rank
1995 Verbal	425.7	428	5/10
1995 Math	469.7	468	6/10
1985 Verbal	431.8	435	5/10
1985 Math	468.8	473	5/10

Source: College Board, 1995

This analysis is a more valid use of the data than a state-by-state comparison, and gives a more definitive picture of Virginia's real standing on the SAT.

Summary

It appears that the increase in resources invested in public education is not reflected in a commensurate increase in student achievement in Virginia.

Given Virginia's dedicated commitment in allocating resources to education, it seems surprising that academic achievement does not reflect the level of funding put forth by the state.

Given Virginia's dedicated commitment in allocating resources to education, it seems surprising that academic achievement does not reflect the level of funding put forth by the state.

Virginia ranks in the top half of all the states in 91% of the input measures presented, and in the top one-third of all states in 52% of such measures. However, according to the NAEP data, only 23% of Virginia's students were ranked as proficient in math in 1992 and in reading in 1994. And the notable decline in Virginia reading scores from 1992 to 1994 ranked Virginia as thirty-seventh out of thirty-nine states in terms of declining student achievement in this area.

In the Iowa Test of Basic Skills, scores generally have remained stagnant, and SAT scores have remained flat over time at a middle-of-the-road ranking using a comparison based upon other states which have similar percentage of students taking the test.

Table 14

Summary:
Rankings of Virginia Students on the NAEP Tests

	National	Virginia	Virginia's Ranking
NAEP Math test: Percentage proficient 1992	23%	23%	20/39
NAEP Math test: Change in scores 1990-1992	+4	+3	16/39
NAEP Reading test: Percentage proficient 1994	24%	23%	19/39
NAEP Reading test: Change in scores 1992-1994	-3	-8	37/39

However, there are individual examples of educational excellence throughout Virginia. There are school divisions which have consistently performed at outstanding levels and those which have shown significant increases in student achievement. One of the goals of the **Virginia Education Report Card** is to highlight these success stories. Those dedicated educators whose professional commitment is reflected in the success of their divisions deserve to be honored. And the commonalties among these high achieving divisions should be explored so as to enlighten all of us as to the "secrets of their success."

These themes are considered in the next section: **The Virginia Honor Roll**.

The Virginia Honor Roll

The following school divisions have earned distinction as Virginia's High Achieving divisions, as set forth in the criteria outlined in the Methodology section of this research project. There are two categories of High Achieving divisions: Top Performers are those divisions which have displayed a consistently high level of achievement, and Rising Stars are those which have shown remarkable improvement.

It should be noted that only four divisions – Falls Church, Poquoson, Radford, and West Point – earned the distinction of being a Top Performer at the elementary, middle school, and high school levels.

The Virginia Honor Roll divisions are listed alphabetically.

Table 15

The Virginia Honor Roll					
	Elementary School		**Transition**	**Middle School**	**High School**
	Iowa Test: Reading **Grade 4**	Iowa Test: Math **Grade 4**	Literacy Passport: **Grade 6**[vi]	Iowa Test: Reading & Math **Grade 8**	Iowa Test: 4 Core Areas **Grade 11**[vii]
Arlington				Top Performer	
Bath	Rising Star	Rising Star			
Bland					Rising Star
Craig	Rising Star	Rising Star			
Fairfax County					Top Performer
Falls Church	Top Performer*	Top Performer		Top Performer	Top Performer
Highland					Rising Star
King & Queen			Rising Star		
Loudoun				Top Performer	
New Kent	Rising Star			Rising Star	
Norton		Rising Star			
Patrick	Rising Star	Rising Star	Top Performer		
Poquoson	Top Performer	Top Performer		Top Performer	Top Performer
Radford	Top Performer	Top Performer		Top Performer	Top Performer
Salem	Top Performer	Top Performer			
West Point	Top Performer	Top Performer		Top Performer	Top Performer*
York					Top Performer

* Also earned the distinction of Rising Star in this category.

[vi] Scores include reading, writing, and math.

[vii] Scores include reading, math, social studies, and science.

Laying the Foundation
Elementary School

High Achieving School Divisions
Elementary Reading

Skills learned in the elementary grades form the foundation for all which follows. Most important to that foundation are solid skills in reading, followed by math. Because of their critical importance as the cornerstones of all future educational endeavors, these are the two content areas analyzed for this part of the study.

For a complete description of how divisions earned the designations Top Performer and Rising Star, please refer to the Methodology section.

Top Performers
Falls Church
Poquoson
Radford
Salem
West Point

Rising Stars
Bath
Craig
Falls Church
New Kent
Patrick

Overview of Divisions

It is of interest that all five of the Top Performing divisions in reading (Falls Church, Poquoson, Radford, Salem, and West Point) are also Top Performers in math. Similarly, three of the five divisions with the rating of Rising Star (Bath, Craig, and Patrick) have likewise earned recognition in both content areas. An overview of all ten divisions, including New Kent (a Rising Star in reading) and Norton (a Rising Star in math) follows.

A wide variety of indicators have been compiled for each of these divisions. Data include information on demographics, funding, expenditures, and personnel.

Demographically, these divisions tend to be fairly small, ranging from a low of 702 students to a high of 3,752. The Top Performers tend to be concentrated in urban areas, while the Rising Star divisions are more rural. Six of the ten divisions have a community educational level lower than the state average. (See Table A.1, located in Appendix A, page 86.) The average community income in six of the ten divisions is below the state average, and five of these divisions are at or above the state average in the percentage of families living in poverty. (See Table A.2.)

In terms of per pupil expenditures, six of the ten high achieving school divisions spend less than the state average. (See Table A.2.) With the exception of Bath and Falls

Church, all of these high achieving divisions spend a greater percentage of their funds on instruction than the state average. (See Table A.3.)

In terms of per pupil expenditures, six of the ten high achieving school divisions spend less than the state average.

Seven of the ten divisions have lower student/teacher ratios than the state average, and six of the ten have more teacher aides per 1000 students than the state average. Seven of the ten divisions also have more instructional personnel than the state average. (See Table A.4.) There appears to be a wide range in the number of support positions (clerical, attendance and health, operation and maintenance, and transportation) in each division. (See Table A.5.) There is less of a range in the number of administrative positions in each of these divisions, with the exception of professional administrative positions in West Point. (See Table A.6.)

Without exception, all of the high achieving divisions documented elementary attendance rates better than the state average, with the Top Performers having slightly better overall attendance than the Rising Stars. This difference in attendance rates is also reflected in a comparison of the percentage of students absent fewer than ten days, where again the Top Performing divisions document better attendance. (See Table A.7.)

Without exception, all of the high achieving divisions documented elementary attendance rates better than the state average.

Interviews with Local Educators

There are many factors to which division personnel attribute their outstanding student achievement. These include strong and dedicated teachers, a responsive administration, small class sizes, a high level of community support, scheduling priority for reading instruction, the amount of time-on-task, a variety of diagnostic practices utilized regularly, flexible and varied intervention strategies, individualized grouping practices, and the widespread use of phonics.

Strong and Dedicated Teachers

When asked to share one of the main reasons for their students' success, nearly all administrators and supervisory personnel answered first that the main source of strength in their school or division was their teachers.

The Director of Elementary Education in Radford, Bruce Criswell, describes his teachers this way: "We have good, strong, traditional teachers. They are before school/after school people who don't watch the clock and who don't complain about coming in during the summer."

"We have good, strong, traditional teachers. They are before school/after school people who don't watch the clock and who don't complain about coming in during the summer."

Bruce Criswell
Director of Elementary Education, Radford

Reading Specialist Nancy Brown of Falls Church concurs: "We have knowledgeable, caring teachers who have worked hard to create our curriculum. Our changes have come from the bottom up."

Nearly all administrators and supervisory personnel answered first that the main source of strength in their school or division was their teachers.

Pete Controvich, elementary principal in Craig County, states: "I just let my teachers teach. I get out of their way. You can do this when you have a strong and dedicated staff."

Several administrators indicated that they place a priority on having teachers with strong academic training, and therefore prefer to hire teachers with experience and/or a Master's degree. "We are more concerned with quality than with cost," said Radford's Dr. Criswell.

Small Class Sizes

A commitment to small class sizes was cited as another factor in high student achievement. Several administrators stated that their divisions are "committed to a low student/teacher ratio."

Some divisions not only have small class sizes overall, but have also allowed their teachers the flexibility to reduce class sizes even further for both reading and math instruction. For example, Principal Pete Controvich of Craig County allows his teachers to combine students into larger science and history groups in order to keep the numbers of students smaller for group instruction in reading and math.

Strong Community Support

Many educators spoke warmly of the extent of support they receive from their communities. Nancy Brown of Falls Church referred to her division as having an "overwhelmingly supportive community of parents."

Many educators spoke warmly of the extent of support they receive from their communities. Nancy Brown of Falls Church referred to her division as having an "overwhelmingly supportive community of parents." Many others commented upon the willingness of parents and community members to volunteer their time and talents with the schools.

Scheduling Priority for Reading

All of the division personnel indicated that teaching reading was the priority in their respective divisions. "Reading *always* takes precedence when blocking out our instructional time," states Barbara Shackleford of West Point. "We make certain that all children, from kindergarten to fifth grade, have the majority of their reading and language arts instruction in the mornings, when they are fresh. Everything else is scheduled around this."

Principal Pete Controvich of Craig County agrees: "Our students always start their day with one hour and twenty minutes of reading. And from kindergarten to third grade, half of the entire day is spent on reading." He spoke with great conviction about the role of the administrator in this aspect: "I can't control funding, I can't control textbooks - but I <u>can</u> control time. And the time to be spent on reading is a priority for my students."

Other divisions, such as New Kent, have implemented similar changes which place the majority of the time spent on reading instruction in the mornings.

> "I can't control funding, I can't control textbooks - but I can control time. And the time to be spent on reading is a priority for my students."
>
> *Pete Controvich*
> *Elementary Principal,*
> *Craig County*

Time Spent on Reading

The amount of time children in each division spend on reading and related instruction varies from a minimum of two hours to half of the entire school day. The most commonly reported amount of time was two and one half hours, but as Principal Nancy McMurray of Radford pointed out, with the integration of reading across the curriculum, the actual time spent on reading is even greater than that.

Testing and Diagnostic Practices

There are a wide variety of diagnostic practices used across all divisions, as well as differences in the timing of diagnoses, but one common thread was the priority placed upon the on-going nature of diagnosing reading problems. Most of the divisions indicated continual attempts to diagnose and treat deficiencies as soon as possible.

> "Testing at every grade level every year is a very effective way of targeting areas for improvement."
>
> *Principal James Lanham*
> *New Kent*

Everything from teacher-constructed tests to textbook assessments to standardized tests were used for diagnostic purposes. Some divisions administer the Iowa Test of Basic Skills annually. As Principal James Lanham of New Kent states: "Testing at every grade level every year is a very effective way of targeting areas for improvement."

Several educators expressed views similar to those of Principal Pete Controvich of Craig County: "We look closely at the specific subtests scores, find our weaknesses, and concentrate upon these areas." Similarly, Jacqueline Stephenson of Bath states: "When we realized that our students were not doing as well as they could, we implemented some good staff development. We then looked closely at students' basic skills and concentrated our efforts on their weakest areas. Now we are seeing the fruits of these efforts."

> "We look closely at the specific subtests scores, find our weaknesses, and concentrate upon these areas."
>
> *Principal Pete Controvich*
> *Craig County*

Intervention Strategies

The majority of the high achieving divisions place emphasis upon interventions which individualized instruction as much as possible. Other strategies are used as well. Superintendent M. Dallas Helems of Craig County allocates one teacher's aide per grade level, and Judy Self of Salem notes that reading resource teachers are available at each school in her division.

Many divisions report the use of one-on-one tutoring in the classroom. Parent volunteers are often recruited to help in this way. Another successful tutoring program is in Craig County, where money for drop-out prevention is used to fund an after-school tutoring program.

Many divisions report the use of one-on-one tutoring in the classroom. Parent volunteers are often recruited to help in this way. Another successful tutoring program is in Craig County, where money for drop-out prevention is used to fund an after-school tutoring program.

Several division representatives spoke proudly of their summer programs. West Point offers two such programs: one is four weeks of remediation for students in grades K-7, where students are tutored for three and one half hours a day. Students are selected for the program on the basis of teacher recommendations, parental recommendations, or if they score in the lowest quartile of achievement. In an attempt to eliminate the stigma of "summer school," this district also offers an enrichment program which runs concurrently, and which is open to all students. Both of the programs are offered free of charge.

One unique approach to intervention is Radford's transitional first grade program. Those kindergartners who might otherwise be retained in kindergarten, or moved up to first grade before they are ready, are instead put into a class known as transitional first grade, or "T-1." Class size is kept very low (a maximum of ten students), and students receive intensive remediation and individualized instruction. Principal Nancy McMurray says "the teacher is absolutely wonderful," and declares that "this program is so successful that our community is absolutely supportive. They are completely sold on it." Depending upon how the students progress, they can either be promoted to the traditional first grade or to second grade upon completion of grade T-1.

Some division personnel are also utilizing computer technology as an intervention tool. Jacqueline Stephenson of Bath notes that her division's use of computer programs with built-in tutorials has been highly successful: "The Computer Curriculum Corporation tutorials train our students in basic skills and provide a diagnostic profile as well."

Grouping Practices

The general consensus was that students have a diversity of needs, and that these could best be met when teachers did not have to struggle to instruct all levels.

There was a great deal of consistency among the high achieving districts in the area of ability grouping. Only one division, Radford, does not utilize some sort of ability grouping for reading, and no division used the rigid system of tracking.

The general consensus was that students have a diversity of needs, and that these could best be met when teachers did not have to struggle to instruct all levels. It was noted by one respondent that this was a more efficient use of teachers' time and energy, and thus in the best interests of students.

Although a few divisions grouped all students by ability, the most common practice was for teachers to group students by ability for reading instruction in an otherwise mixed-ability classroom.

One notable variation of this is the practice in West Point and Poquoson of placing only two ability levels within each classroom. Elmer Seward, elementary principal in Poquoson, noted that this "provides a narrower range of abilities" within a single classroom.

Phonics vs. Whole Language

Nearly every one of the respondents from the high achieving divisions stated that their teachers placed an emphasis upon the use of phonics for beginning readers.

The perceived level of enthusiasm for phonics varied from division to division. From the nature of the conversations and the willingness, or lack thereof, to be quoted on this topic, this variance appears to be a function of the controversial nature of the topic.

The perceived level of enthusiasm for phonics varied from division to division… this variance appears to be a function of the controversial nature of the topic.

One especially enthusiastic phonics proponent was Barbara Shackleford of West Point: "Three years ago, we left a pure whole language approach and adopted a more balanced approach, returning to an emphasis on both phonics and skills. We also introduced the early kindergarten phonics-based Harcourt Brace curriculum this past fall, and our spring ITBS scores showed that our kindergartners scored 81% in reading comprehension and 72% in word analysis!"

"Three years ago, we left a pure whole language approach and adopted a more balanced approach, returning to an emphasis on both phonics and skills… our spring ITBS scores showed that our kindergartners scored 81% in reading comprehension and 72% in word analysis!"

Barbara Shackleford
West Point

Although many respondents answered that they would put their districts at a 50/50 split between whole language and phonics, when asked which methodology was used more in the early elementary grades, the vast majority answered that phonics was the preferred method.

Divisions such as Craig, West Point, and Poquoson made special note of their emphasis on phonics at grades K-1. The Instructional Specialist of the primary (K-2) school in Poquoson, Susan Butler, states: "We lean towards an emphasis on phonics at the early elementary grades. "We feel that phonics is an integral part of teaching reading, and our teachers would *not* want to teach without it." Pete Controvich, principal of the elementary school in Craig County, declares: "Most of our emphasis is on phonics, and we supplement with whole language."

It is of interest to note that the educators in these high achieving divisions consistently used the term "whole language" to mean the integration of literature into the curriculum. There was no indication that the *look-say* approach to reading was utilized in any of these divisions.[viii]

It is of interest to note that the educators in these high achieving divisions consistently used the term "whole language" to mean the integration of literature into the curriculum. There was no indication that the *look-say* approach to reading was utilized in any of these divisions.

Of interest was that, although phonics is considered a "traditional" methodology, its implementation is apparently keeping pace with the times. Several divisions are using computer programs to supplement teacher instruction in this area.

[viii] Please refer to the "Analysis and Recommendation" section for an in-depth discussion of this issue.

High Achieving Divisions
Elementary Math

Top Performers
Falls Church
Poquoson
Radford
Salem
West Point

Rising Stars
Bath
Craig
Norton
Patrick

For a complete description of how divisions earned the designations Top Performer and Rising Star, please see the Methodology section.

Overview of Divisions

Please see the overview at the beginning of the preceding "Elementary Reading" section on page 28.

Interviews with Local Educators

There are a number of common factors which emerged from the interviews as components of a strong elementary math program. These include strong and dedicated teachers, small class sizes, strong community support, instructional priorities for math, testing and diagnostic practices, rigorous intervention strategies, the use of technology for remediation, and consistent grouping practices. One place where there was wide variation was in the area of computational vs. conceptual skills.

Strong and Dedicated Teachers

Once again, the presence of strong and dedicated teachers was cited as an important factor in producing high student achievement. John Shore, the elementary principal in Patrick County, states that the teachers there are "very experienced." He goes on to note: "Our staff is excellent. They not only work here, but live here. They are a part of this community and take pride in their role here." Elementary principal Theresa Redd of West Point agrees: "Our staff is excellent. Our teachers work long hours and are totally dedicated to the children." Principal Al Johnson of Norton noted that one of his division's strengths was "an exceptionally strong first grade team of teachers."

> "Our staff is excellent. They not only work here, but live here. They are a part of this community and take pride in their role here."
>
> *Principal John Shore*
> *Patrick County*

Small Class Sizes

As noted earlier, Principal Pete Controvich of Craig County allows his teachers to combine students into larger science and history groups in order to keep the groups of students smaller for both math and reading instruction. Principal Elmer Seward of Poquoson likewise places a great priority on keeping class sizes low: "This is especially important at the lower grades."

Strong Community Support

> "We have excellent community support. Our community takes great pride in their schools."
>
> *Principal Theresa Redd*
> *West Point*

The role of the community in supporting the efforts of local educators was noted by many of the respondents. Theresa Redd, elementary principal in West Point, stated: "We have excellent community support. Members of our community takes great pride in their schools." These sentiments were echoed by John Shore, the elementary principal in Patrick County:

> *"We have a tight-knit community. Parents, churches, and the business community center their attention upon helping the kids to do their best. There is a genuine sense of caring – and this makes the kids feel special. We are a small community, and most of us are church-goers. Maybe that is why there is so little crime. The problems facing the rest of the world haven't caught up to us yet."*

Instructional Priorities for Math

Math was noted by many respondents as a priority second only to reading and language arts. Time allocated for math instruction varied from 45 to 90 minutes daily.

Computational vs. Conceptual Skills

> One thing was clear among nearly all of the high achieving divisions: the desire to balance a strong base of traditional, basic computational and problem-solving skills while encouraging students in the development of conceptual skills as well.

There were a variety of approaches in instruction, but one thing was clear among nearly all of the high achieving divisions: The desire to balance a strong base of traditional, basic computational and problem-solving skills while encouraging students in the development of conceptual skills as well.

Implementation of a balanced approach among these components varied from division to division. For example, in Craig County, Principal Pete Controvich emphasizes traditional computational skills "as the foundation for all subsequent math skills." Calculators are not allowed until the students have memorized basic math facts, including their times tables through twelve. Once this is accomplished, the student is honored with a ceremony where a calculator engraved with the school name is presented as a reward.

Some divisions, such as Bath and Patrick, also emphasize the memorization of math facts and discourage the use of calculators before sixth grade. Other divisions, such as Radford, emphasize math concepts and allow calculator use at younger ages.

It was acknowledged that finding a balance between conceptual skills and computational skills is a challenge. The Director of Elementary Education in Salem, Judy Self, noted that the teachers in her division found their curriculum to be weak in conceptual skills, so they chose to supplement their math curriculum with a math manipulative program that teaches abstract thinking in grade one. Elmer Seward, the elementary principal in Poquoson, noted that "When we de-emphasized math facts, our ITBS scores showed a downward trend in computation." He continues: "We need to supplement our math books to stop this decline in computation and balance out computational scores with our scores in concepts and problem-solving."

Testing and Diagnostic Practices

As with reading, most diagnostic practices were ongoing in these divisions, and the most common diagnostic tool was the Iowa Test of Basic Skills, given annually.

As with reading, most diagnostic practices were ongoing in these divisions, and the most common diagnostic tool was the Iowa Test of Basic Skills, given annually. Other instruments were used for diagnostic purposes as well, and these ranged from computer tutorials to a variety of off-the-shelf assessments.

Rigorous Intervention Strategies

West Point has a unique approach to remediation. A daily seventh hour class is offered for all students after school. Those students who need remedial help are required to attend, and receive individualized assistance in a small group setting. Concurrently, enrichment courses are offered to all other students, easing the perceived stigma of "staying after school." Principal Theresa Redd estimates that nearly 50% of all elementary students choose this option. Transportation home is provided, and the offerings are free of charge.

The Use of Technology for Remediation

It is of interest to note that, while the overuse of one specific technology (calculators) is faulted in some divisions as the cause of certain problems, another specific technology (computer tutorials) is cited as the *solution* to certain problems.

The Director of Instruction in Bath, Jacqueline Stephenson, noted that the Computer Curriculum Corporation (CCC) tutorials have proven successful as a means of remediation in her division. West Point offers this program as a remedial tool once a week after school as well.

Consistent Grouping Practices

With the exception of Bath, Falls Church, and Radford, all of the high achieving divisions group their elementary students by ability for math instruction. As was noted for reading instruction in the high achieving divisions, the general consensus was that students have a diversity of needs, and that these could best be met when teachers did not have to struggle to instruct all levels.

Reaching a Milestone
From Elementary School to Middle School

High Achieving Divisions
The Literacy Passport Test

Divisions earned a place in this category on the basis of their scores on the Literacy Passport Test (LPT), a test which is given statewide to all sixth grade students. A passing grade on this test is required for graduation from high school in the Commonwealth of Virginia.

Although there are exceptions, most elementary schools in Virginia end with fifth grade, and middle schools begin with sixth grade. The sixth grade Literacy Passport Test, then, can be viewed as a measure of the strength of that foundation which was laid in the elementary years. Success on the Literacy Passport Test demonstrates that a student has a strong enough foundation for new and more challenging work.

For a complete description of how divisions earned the designations Top Performer and Rising Star, please see the Methodology section.

Top Performer
Patrick County

Rising Star
King & Queen County

Overview of Divisions[ix]

A wide variety of indicators have been compiled for each of these divisions. Data include information on demographics, funding, expenditures, and personnel.

Both communities are rural areas with small student populations. The average incomes in each community are surprisingly similar, in both cases being roughly 20% below the state average. Another similarity is the percentage of families in poverty: 11%, which is above the state average of 8%. In addition, there are only three divisions throughout the entire state which have more students receiving free lunch than King & Queen County. (See Table B.1 in Appendix B, page 90.)

Both communities also have a similar percentage of adults with high school diplomas (King & Queen 58%; Patrick 54%), which is significantly below the state average of 75%. (See Table B.1.)

[ix] Please see the Methodology section for the explanation as to why there are only two school divisions in this section.

King & Queen County has a higher percentage of at-risk students, as measured by the percentage of students who participate in the free lunch program, and also has a higher minority representation. (See Tables B.1 and B.2.)

The pupil/teacher ratios are slightly lower and the number of support personnel in pupil transportation is slightly higher in King & Queen County, but for most other personnel categories, the numbers are remarkably similar. (See Tables B.3, B.4, and B.5.)

It is of interest to note that only 34% of the students in King & Queen County (grades K-5) were absent ten days or less in 1990/91. This means that 66% of all elementary students were absent more than ten days that year. However, that number improved to 83% in 1995/6, showing a remarkable increase in good attendance. (See Table B.7.) The possible correlation between this increase in attendance and the increase in LPT scores over the same time period should be noted and examined.

Interviews with Local Educators

A Sense of Mission

The Superintendent of Patrick County, Mr. Dennis Witt, indicates that his division approached the Literacy Passport Test from the beginning with the idea that it was something important: "People in education sometimes become immune to the idea of standardized testing. It is something it seems will always be with us, and so it often gets taken for granted. We decided that the LPT was important. That sounds simplistic, but that is where we started. We then set a goal five years ago to equal or exceed the state pass rate. Reaching our goal took a great deal of focus. The LPT became the centerpiece of our curriculum in grades four through six."

Assistant Superintendent Alphaeus Arrington of King & Queen County indicates that his division is heading in the same direction: "We feel that one of our first priorities is to attend to the needs of those students who are at risk of failing the Literacy Passport Test. This is a goal we have set."

A Sense of Accountability

Interestingly, both divisions emphasize the need to hold schools accountable for their students' results.

Interestingly, both divisions emphasize the need to hold schools accountable for their students' results. In King & Queen County, Dr. Arrington notes that all division test scores are reported publicly to the local school board. Scores are broken down by school, teacher, and grade. "This is not meant to be punitive," he states. "We have found that a little competition is a good thing."

Mr. Witt notes that the focus on accountability did initially produce some anxiety in Patrick County: "At first, schools did not want to have to live up to the expectations which had been set." As with King & Queen County, the public focus is not on the underachieving schools, but rather on those schools which meet the stated goals. In Patrick County, this recognition occurs at the beginning of each school year. Mr. Witt announces those schools which met the division goals, and the faculty members of each

school stand to be recognized. "It sounds so simple," he says. "But it has turned out to be very successful. It is an honor to acknowledge the staff and thank them for their efforts."

Nothing was said to, or about, those schools which did not meet the goals, but as Mr. Witt points out, "It was very lonely to be sitting and not standing." After only a few short years, every school in the division was meeting its goals, and all were receiving recognition.

A Community Effort

Its Literacy Passport test scores have put Patrick County on the map, and the entire community takes pride in the accomplishments of its students.

"We treat the Literacy Passport Test the same way we'd treat the championship football or basketball game," says Mr. Witt. "The key is to involve the whole community in the effort. If you make it important enough, it becomes a goal that *is* attainable. That, to me, is the missing link in accountability."

Dr. Lois Kloock, Director of Instruction, agrees: "Our school board and superintendent placed a high priority on student achievement on the LPT, and stated that they wanted all of our students to master these basic skills. Our principals, teachers, parents, and the community rallied behind them."

"We treat the Literacy Passport Test the same way we'd treat the championship football or basketball game...The key is to involve the whole community in the effort. If you make it important enough, it becomes a goal that *is* attainable. That, to me, is the missing link in accountability."

Dennis Witt, Superintendent, Patrick County

Instructional Practices

Dr. Arrington of King and Queen County stated that "phonics at the very early grades is especially important for low achieving students. As the students grow older, we balance our strong phonics program with whole language literature." The focus is similar in Patrick County. Dr. Kloock declares that "phonics is never, ever going to leave this county!" She notes that phonics instruction is focused on grades K-3, but that the schools have an integrated approach to language arts instruction overall. "Reading, writing, and spelling are all integrated into one block. Phonics is an integral part of our instruction and gives us structure, but we want to balance skills with an integrated approach to all components of the language arts."

"Phonics at the very early grades is especially important for low achieving students."

Alphaeus Arrington Assistant Superintendent, King & Queen

Grouping practices in both counties are similar, as well. Heterogeneous (mixed-ability) classes are regrouped homogeneously (by ability) for instruction in reading and math.

Diagnostic Practices and Intervention Strategies

These interventions have proven so successful that, after three years of holding summer school, Patrick County found that it no longer needs to offer a summer school program.

In both divisions, early intervention is seen as a critical component of success, and one which can prevent the need for remediation. "The Department of Education recently presented a literacy development plan for eighth graders, which might be helpful to some divisions," said Mr. Witt, "but we developed one for fourth graders. We use the fourth grade predictor test to target at-risk students, and then pull them aside for tutoring on specific skills. They spend either thirty minutes a day or one hour twice a week receiving special help." These interventions have proven so successful that, after three years of holding summer school, Patrick County found that it no longer needs to offer a summer school program.

Early intervention has become a priority in King & Queen County, as well, where personnel start off every school year by diagnosing *all* elementary school students. Dr. Arrington states: "You can't take anything for granted, especially for at-risk students. We have used more diagnostic strategies over the last three years than ever before, and I believe that has played a critical role in our students' improvement. We monitor instruction closely, and use data from our test scores to better tailor our instruction." King & Queen County's six week summer enhancement program has two goals: to remediate students who have failed the LPT, and to prevent future failure by targeting the needs of those students who are in the bottom quartile of achievement.

"We have used more diagnostic strategies over the last three years than ever before, and I believe that has played a critical role in our students' improvement. We monitor instruction closely, and use data from our test scores to better tailor our instruction."

Alphaeus Arrington
Assistant Superintendent,
King & Queen County

A Spill-over Effect?

It should be noted that these efforts expended for the Literacy Passport Test have not resulted in isolated success. Performance is generally up in King & Queen County, but some inconsistency still remains from year to year. In Patrick County, the efforts put forth by dedicated educators have resulted in a generally consistent overall increase in student performance, especially at grade four. (See Table 16.)

Table 16

Patrick County: Iowa Test of Basic Skills				
	Grade 4		Grade 8	
	Reading	Math	Reading	Math
1992-1993	55	65	48	52
1993-1994	55	64	57	59
1994-1995	58	71	48	56
1995-1996	63	80	53	58
Gain score: 1992/3-1995/6	+8	+15	+5	+6

A Time of Transition
Middle School

High Achieving School Divisions
Math and Reading

During middle school, students go through an amazing array of changes: physical, emotional, social, and intellectual. It is a time of growth and transition. The foundation formed in elementary school, which focused most closely on reading and math, forms the basis for an expanding framework of knowledge at the middle school level.

For a complete description of how divisions earned the designations Top Performer and Rising Star, please see the Methodology section.

Top Performers
Arlington
Falls Church
Loudoun
Poquoson
Radford
West Point

Rising Star
New Kent

Overview of Divisions

These high achieving divisions range in size from 18,256 to 719, and represent a diversity of geographic locations. (See Table C.1, Appendix C, page 92.) With the exception of Radford, all of the communities have average income levels above the state average. The average state educational level is 75% (adults with high school diplomas), and all of these high achieving divisions are at or above that level, with New Kent only two points away. Additionally, three of the seven divisions spend less per pupil than the state average, and the other four divisions spend more. (See Table C.2.)

There are wide variations among these divisions in terms of the percentage of the budget which is spent on administration, attendance and health, pupil transportation, and other. The percentages spent on operations and maintenance are less varied. In relation to the percentage spent on instruction, three divisions spent less than the state average and four spent more than the state average. (See Table C.3.)

With regard to instructional personnel, there was a wide variety in the number of teacher aides, as well as a wide variety in the number of instructional personnel per 1000 students. (See Table C.4.) Support personnel showed wide variations as well. (See Table C.5.) The number of administrative positions showed less variation. (See Table C.6.)

There was a great deal of consistency in attendance across divisions. All of these high achieving divisions were at or above the state average in the total percentage of attendance at the secondary level, as well as above the state average in the percentage of students absent ten days or less. (See Table C.7.)

Interviews with Local Educators

Strong Community Support

> "Our school is small, our community is tight-knit, and we have tremendous community support."
>
> *Principal Mark Dixon*
> *Poquoson*

The theme of a strong and supportive community emerged from many interviews. Mark Dixon, the assistant principal in Poquoson, stated: "Our school is small, our community is tight-knit, and we have tremendous community support." A similar comment was made by Robert Young, a principal in Radford: "This community is small and very pro-education. It's always been education-oriented – we don't do anything fancy!"

Similar comments came from West Point. Linda Minor, the middle school principal there, observes: "Our parents are very cooperative. They are very involved and have high expectations for their children."

"Education is a high priority for our community," states Assistant Superintendent Mary Shaw of Falls Church. "About fifty years ago our citizens decided that they wanted their own education system, so we became an independent city so as to have an educational system separate from Fairfax County. Our citizens wanted greater local control and involvement in education."

Building Upon a Strong Elementary Foundation

> "By ensuring success at an early age, we are ensuring continued success for our children."
>
> *Mary Shaw*
> *Assistant Superintendent, Falls Church*

Many of the respondents mentioned that they would not be as successful as they are if it wasn't for the fact that they are building upon the strong foundation which was started in their elementary schools. Mary Shaw of Falls Church notes: "By ensuring success at an early age, we are ensuring continued success for our children."

Parental Expectations

Several respondents noted that the parents in their communities were well-educated and placed a high value upon education. These comments are not surprising, considering the fact that the educational level of these communities is generally above the state average.

Terrence Hill, the Director of Secondary Education in Loudoun County, notes: "Most of our community is made up of college-educated professionals. These people

have high expectations for their children." He is echoed by Mark Dixon, assistant principal in Poquoson: "Most parents here are hard-working professionals and many have a college education, and they want the same opportunities for their children." Administrators from Radford, West Point, and Falls Church made the same point.

High Expectations

In addition to high parental expectations were high expectations from the schools. Howard Ormond of New Kent noted: "We don't use the label 'at risk' to describe our kids. We make it clear to them that what counts is what you produce. We do not allow them to use their personal circumstances as an excuse for non-performance. We have found that when we set higher expectations, the kids produce – *and* they feel good about themselves as a result."

"We don't use the label 'at risk' to describe our kids. We make it clear to them that what counts is what you produce. We do not allow them to use their personal circumstances as an excuse for non-performance. We have found that when we set higher expectations, the kids produce – *and* they feel good about themselves as a result."

Howard Ormond
New Kent

Grouping Practices

New Kent does not group by ability, but does begin to offer Honors classes at eighth grade. Radford groups by ability only for math, and Falls Church and West Point group by ability for both math and English. Poquoson and Loudoun group by ability for all four core academic areas.

Terrence Hill, the Director of Secondary Education in Loudoun County, has strong feelings on the topic of grouping:

"I have read much of the literature about the middle school, and it is the issue of grouping that really bothers me. I have spent thirty-one years in Loudoun County, and my experience is that if students are grouped by ability they can be very successful. For example, I believe that remedial classes should be small and tailored to meet the individual needs of the students. I put my best teachers with the remedial classes, and these kids blossomed! They were able to move into regular classes! You won't read about success like that in most of the articles on grouping – they are a lot of hype. These researchers tell teachers that if you group kids you are fundamentally damaging them. I have stood up in meetings to refute that, and there is research to back up my position. If grouping is done correctly, there can be very beneficial results."

Testing and Diagnostic Practices

The Iowa Test of Basic Skills is used by most of these high achieving divisions as a diagnostic tool. "We try to tune in to a child's individual needs so as to address their deficiencies. The ITBS helps us to do that," says Mary Shaw of Falls Church. Robert Young of Radford notes that "We use the ITBS at every grade level except sixth. It is useful for improving instruction." And Linda Minor, the middle school principal in West Point, states: "Teachers use these test scores at the beginning of every year to plan their instructional programs."

Completing the Goal
High School

High Achieving Divisions
English, History, Math, and Science

If middle school sets up a framework, then high school is when that framework begins to be filled out. The acquisition and integration of knowledge accelerates and intensifies, and students begin to clarify the vision of where they see their future paths leading.

For a complete description of how divisions earned the designations Top Performer and Rising Star, please see the Methodology section.

Top Performers
Fairfax
Falls Church
Poquoson
Radford
West Point
York

Rising Stars
Bland
Highland
West Point

Overview of Divisions

There is a great deal of geographic diversity among these high performing divisions. However, with the exception of Fairfax and York, there is a consistent pattern of small schools. (See Table D.1, Appendix D, page 95.)

The communities of five of these eight high achieving divisions have higher educational and income levels than the state average. Five of these divisions spend more per student than the state average. Only two of the divisions have poverty rates higher than the state average. (See Table D.2.)

The expenditures on instruction as a percent of the total budget range from a low of 49.86% to a high of 77.66%. There is a great deal of variation among the expenditures on administration, attendance and health, pupil transportation, and other. The amount going towards operations and maintenance, however, was fairly consistent from division to division. (See Table D.3.)

The number of teacher aides and instructional personnel per 1000 students for these divisions varies greatly. York has a low of 65 instructional personnel per 1000 students and Poquoson has 66.6, while Highland has a high of 107. (See Table D.4.) Wide variations exist among the number of support personnel as well. (See Table D.5.) There

is more consistency and less of a range in the number of secondary administrators. (See Table D.6.)

Attendance is well above the state average with regard to the number of students who were absent ten days or less, and with only two exceptions, the overall attendance was also at or above the state average. (See Table D.7.)

The same three communities which had lower educational levels and incomes likewise had lower numbers of students receiving advanced level diplomas. (See Table D.8.) All but one of these high achieving divisions graduated a higher percentage of students than the state average.

Only two divisions had a lower percentage of students continuing their education after high school than the state average. (See Table D.9.)

Interviews with Local Educators

Smaller Schools

Many respondents placed part of their division's success on the fact that their schools were small. Larry Chapman of Highland states: "Small size is important, and has contributed to our success." Judy McCormick, Assistant Principal at Poquoson, agrees. "I think a small school is a lot more effective. We have a fine, strong, dedicated faculty and staff that are committed to the learning process. We all work as a team. We know each other well, and know each other's strengths and weaknesses."

> "Small size is important, and has contributed to our success."
>
> *Larry Chapman*
> *Highland*

With the exception of Fairfax (and York to a degree), the issue of small size was repeated consistently. The comparative sizes are shown below:

Comparative Sizes of High Achieving High Schools[x]		
Division	**Number of High Schools**	**Range of Student Population at High Schools**
Bland	2	179 & 210
Fairfax	23	1084-2472
Falls Church	1	430
Highland	1	175
Poquoson	1	817
Radford	1	411
West Point	1	203
York	5	660-1090

[x] All of these high schools are for grades 9-12, with the exception of Highland, which includes grades 7-12.

Grouping Practices

Most of these divisions offered a variety of Advanced Placement (AP) and/or Honors courses. The only one which did not was Falls Church, which offers the International Baccalaureate Program.

High Expectations

Several of the respondents mentioned the issue of consistency of expectations for their students. Judy McCormick, Assistant Principal at Poquoson, explains how high expectations, both behavioral and academic, are applied consistently at that school: "We work together as a team, with all teachers having the same expectations in all classes for all students. Every class has a list of expectations for student behavior posted on the wall. It explains what we call the 'two big Rs': Respect and Responsibility. This means respect for others, for property, for authority, and for our visitors. Responsibility includes coming to class prepared, making up all absentee work, and putting forth your best effort. With this system, there is no guess-work for our students – they know they will encounter the same high standards in every classroom."

"With this system, there is no guess-work for our students – they know they will encounter the same high standards in every classroom."

Judy McCormick
Assistant Principal
Poquoson

Block Scheduling

With the exception of Highland, only those divisions in Northern Virginia have adopted block scheduling. The principal at West Point, Dr. Ron Flowe, stated: "I am not against block scheduling, but I am still waiting to see the research which shows that it is worth the switch. The questions school divisions need to ask is this: 'What do you think you will achieve by this?' It makes no sense to change simply because everyone else is doing it."

"I am not against block scheduling, but I am still waiting to see the research which shows that it is worth the switch. The questions school divisions need to ask is this: 'What do you think you will achieve by this?' It makes no sense to change simply because everyone else is doing it."

Dr. Ron Flowe,
Principal, West Point

Analysis and Recommendations

Issue 1: The Correlation Between Funding and Achievement

Introduction

As noted in a previous section, the Commonwealth of Virginia has made a significant commitment to the schools in terms of financial resources. Overall, state spending on education has increased by 14.14% since the last biennium. In the present biennium, 36.95% of the state operating budget will be spent on public education. This amounts to $6,123,876,404. Another 13.21%, or $2,189,308,429, will be spent on higher education. Spending on education, including .51% spent in the category "other," now accounts for 50.67% of the total state operating budget.[53]

What Does the Research Tell Us?

Dr. Eric A. Hanushek is a professor of economics and public policy at the University of Rochester, a member of the Brookings Institute Panel of the Economics of Educational Reform, and the author of Making Schools Work: Improving Performance and Controlling Costs. In an extensive study he found that "over the past quarter century researchers have made the surprising discovery that there is little systematic relationship between school resources and school performance." He further notes that, in spite of this, "the nation has been spending more and more to achieve (student performance) results that are no better, and perhaps worse."[54]

> "The inputs expected to contribute to school effectiveness, particularly per-pupil spending, do not display any significant correlation with outputs (i.e., student achievement)."
>
> *American Legislative Exchange Council*

Similar results were reported by the American Legislative Exchange Council (ALEC). An annual analysis of the nation's schools conducted over the past three years has yielded the same result every time: "The inputs expected to contribute to school effectiveness, particularly per-pupil spending, do not display any significant correlation with outputs (i.e., student achievement)."[55] The ALEC report not only reiterates this point, but provides extensive data to demonstrate the strength of its assertion: "Clearly, there is still no observable correlation between these educational inputs and outputs, particularly between spending and student achievement. A comparison of the top performing states displays an even more glaring lack of a correlation. As in last year's edition of the Report Card, none of the top ten states in educational performance rank among the top ten in per-pupil spending."[56]

A study comparing academic achievement with spending levels in the 610 school districts in Ohio came to the same conclusion. Researchers found that 17 rural districts which ranked in the top 20% of all districts in student academic achievement ranked in the *bottom* 20% in spending. These researchers concluded that factors such as school attendance, two-parent families, and traditional religious values contribute more to a child's academic performance than the amount of taxpayers' money which is spent on education.[57]

> "The truth is, there is absolutely no convincing evidence that higher spending produces higher student achievement."
>
> *Janet Novack, Forbes*

An analysis of all of the current data on the relationship between academic performance and spending concludes: "The truth is, there is absolutely no convincing evidence that higher spending produces higher student achievement. In study after study, the economic and educational status of parents and such factors as hours of homework count more than spending."[58]

Virginia's High Achieving Schools

Forty-seven percent of the high achieving divisions cited in this study spent less per pupil than the state average. In elementary schools, the overwhelming majority of the high achievers spent less than the state average per pupil on education. While this may seem remarkable if one accepts the conventional wisdom, it should be no surprise considering the research conducted by Dr. Hanushek, the American Legislative Exchange Council, and others.

> The overrepresentation of low-spending Virginia divisions among those of high achievement, especially at the elementary level, may suggest an inverse relationship, with divisions which are more fiscally conservative producing higher achievement.

The data in this research study appears to replicate the conclusion drawn by these extensive studies: ***There is no correlation between educational spending and educational results***. In fact, the overrepresentation of low-spending Virginia divisions among those of high achievement, especially at the elementary level, may suggest an inverse relationship, with divisions which are more fiscally conservative producing higher achievement. Dr. Hanushek's research explains why this may be so: "Some schools appear to use money and resources effectively, but others do not. In fact, resources are spent ineffectively so often that there is simply no reason to expect overall improvement from increased resources."[59]

Additionally, other factors which are often overlooked, such as those noted in the Ohio study – two-parent families, school attendance, and traditional religious values – may have a greater influence than has previously been believed. The interviews with educators from Virginia's rural high achieving divisions appear to confirm the findings of the Ohio study.

Recommendations

1. Study the budgetary practices of those divisions which are producing high achievement with low per-pupil spending.

It would seem that many of the high achieving divisions have intuitively discovered and are actively practicing Dr. Hanushek's advice: "The highest priority for America's schools today is to use existing resources more efficiently…If two programs are competing for limited funds, put the money into the one that achieved the best results. If a program does not improve student performance, do not fund it."[60]

2. **Recognize and applaud those educators who are practicing the common sense use of financial resources.**

This common sense approach to the use of financial resources deserves to be recognized by those communities where high achievement has come about in spite of low funding. Educators in these districts richly deserve acknowledgment of their efforts.

3. **Consideration should be given to financial incentives and/or rewards for those divisions which have proven to be good stewards of the public's money.**

The results of this study show that it is entirely possible to provide an excellent education that is also a good value. Those divisions which do so should be rewarded, and such rewards might prove an incentive for other divisions to attempt to do likewise.

4. **Future studies should focus on the relationship between achievement and other variables such as those mentioned in the studies cited, to include family structure, attendance, the impact of traditional religious values, parental economic standing, parental educational status, and hours of homework.**

In light of the data collected in the educator interview portion of this study, it appears that there are many factors which contribute to academic success. It is critical to identify these.

Issue 2: Educational Innovations

Introduction

Educational innovations are related to the issue of funding and achievement since many innovations are very costly to implement. The fundamental question is this: Does the increased financial investment associated with many educational innovations result in an increase in student performance? If the answer is yes, then those programs need to be identified, as they could serve as models and their implementation replicated by others. If the answer is no, then another question is raised: Why would anyone continue to spend the taxpayer's money on failed programs?

What Does the Research Tell Us?

Professor Doug Carnine of the University of Oregon declares: "Educators at all levels, from classroom teachers to national policymakers, routinely use and approve materials and techniques without testing or evaluating them. This costs schools millions of dollars and does not yield the results educators and the public are clamoring for."[61]

> "Educators at all levels, from classroom teachers to national policymakers, routinely use and approve materials and techniques without testing or evaluating them."
>
> *Dr. Doug Carnine*
> *University of Oregon*

Other educators agree. Dr. John Stone of East Tennessee State University reports:

> *"Despite these mounting concerns, schools have largely ignored the availability of a number of teaching methodologies that seem capable of producing the kind of achievement outcomes demanded by the public. They are experimentally validated, field tested, and known to produce significant improvements in learning. Instead, the schools have continued to employ a wide variety of untested and unproved practices which are said to be 'innovative.'"*[62]

The conclusions of these experts is that educational leaders, legislators, and school administrators should have insisted upon documented proof from unbiased sources before they committed themselves (and millions of limited taxpayer dollars) to the current educational trends. To outside observers, this would be the logical, fiscally responsible, ethical thing to do, but, according to these researchers, it simply didn't happen.

The conclusions of these experts is that educational leaders, legislators, and school administrators should have insisted upon documented proof from unbiased sources before they committed themselves (and millions of limited taxpayer dollars) to the current educational trends.

How did this come about? Dr. Robert Slavin of Johns Hopkins puts it this way: the program is proposed and then piloted, with such pilot studies "almost always badly flawed." Regardless, the program is then "introduced in innovative districts." The program then becomes the "hot topic among staff developers and thus expands rapidly." Then controlled evaluations begin, while in the meantime "complaints surface in professional publications." When preliminary evaluations are disappointing, the "developer claims that disappointing results are due to poor implementation." Then, "interest in the program flags," and "at long last," controlled studies are published. "However, the news – usually bad – arrives too late."[63]

If the promoters of educational "reforms" cannot ethically police themselves, then some suggest that perhaps the time has come for a "consumer protection" movement to inform parents, teachers, and students as to which reforms are experimental and which have been rigorously tested. Referring to one of the more popular reformers of the early 1990s who is now largely discredited, Dr. Jo Ann Carson of the University of Texas states: "If this reformer were selling vacuum cleaners, we could report him to the Better Business Bureau. But where do you go to report an intellectual scam?"[64]

Other educators have joined Dr. Carnine, Dr. Slavin, and Dr. Carson in raising their voices to protest the promotion of untested innovations. One such person is Dr. Stanley Pogrow at the University of Arizona at Tucson who states: "The biggest problem in education is with the reformers themselves, and with the academicians and researchers who develop the ideas and rationales for the reformers' pet reforms."[65] He criticizes the practice of presenting untried and untested innovations as legitimate reforms, declaring that reformers "have no tradition of insisting on anything approaching reasonable validation of proposed reforms before [they] rush to implementation."[66]

According to Dr. Carnine:

"*One difference between science and education is that in science, new knowledge is acquired through testing, and then published and verified by the research and replication of results by other scientists. It is only after a careful process of research, experimentation, and verification that a new approach gains the status of an accepted part of scientific practice; those that fail are discarded. But in education, untested fads sweep through the profession, gathering authority by the number of schools using them, not by proven gains in learning…This unscientific approach to education squanders the time, money, and effort of those trying to improve learning outcomes for children.*"[67]

"In education, untested fads sweep through the profession, gathering authority by the number of schools using them, not by proven gains in learning… This unscientific approach to education squanders the time, money, and effort of those trying to improve learning outcomes for children."

Dr. Doug Carnine
University of Oregon

According to Public Agenda, members of the public feel the same way and "want an end to what they consider wrongheaded, experimental teaching techniques."[68]

All educators should be well aware of the ethical issues inherent to social research. In response to unethical experiments which took place in the fields of biomedical, psychological, and social science, the Brookings Panel for Ethical Research established a set of ethical guidelines in 1975.[69] Among other things, this panel established the necessity of voluntary informed consent from experimental participants. The word "voluntary" denotes that a free choice has been made, and "informed" implies that all of the possible consequences of the experimental treatment have been presented. But most "reform" districts do not allow students the choice of whether or not they participate in the experimental programs, and even when choice does happen to be present, students and parents are rarely informed of all of the research pertinent to the reforms or the inherent dangers they may present.

The Brookings Panel also recommended compensation for subjects who are injured in social experiments. One leader in the field of research ethics states that "persons having very limited power or autonomy should not be used as subjects."[70] This would certainly apply to children. If a causal relationship can be established between schoolhouse experiments and declining student performance or widespread educational failure, rampant litigation may await 'reform' districts.

Virginia's High Achieving Schools

During an interview with an educator from one of Virginia's high achieving divisions, the following remarks were made. This educator has asked to remain anonymous:

> *"I am known as a troglodyte. I am not a bandwagon rider. I have been yelled at – criticized – for not jumping on bandwagons. Our teachers all took whole language classes and didn't like them, so we made a conscious decision not to go the whole language route. Everyone called me up one to two years later to say: 'Why are your test scores up?' Couldn't they figure it out? It's stupid, this chasing after fads. No one is willing to stand up and say 'I'm against these programs.' We just don't dance to that tune around here."*

It is a sad commentary on public education that this individual feels compelled to remain anonymous in the face of success in order to protect his/her career, and to ensure

the continuation of that division's programs. Although this anonymous educator feels alienated from some of his/her colleagues, this individual enjoys a phenomenal level of parental and community support.

> "Why is the current administrative training literature so focused on leadership for change with almost no standards for the conditions under which administrators should **resist** change?"
>
> *Dr. Stanley Pogrow*
> *University of Arizona*

Dr. Pogrow of the University of Arizona notes that there is very little professional support for educators such as this who refuse to follow the pack:

"Why is the current administrative training literature so focused on leadership for change with almost no standards for the conditions under which administrators should ***resist*** *change? Anyone seen standing pat is automatically seen as reactionary."*[71]

Recommendations

1. Support proven methodologies, and demand proof before adopting new innovations.

Parents, educators, and community members should support the use of proven methodologies, and demand proof of the success and effectiveness of educational innovations *before* adopting them. As Professor Carnine states: "Innovations should be selected for wide-scale adoption only when they have been proven effective."[72]

> It is important that parents be given full disclosure of the track record of any and all educational innovations.

It is important that parents be given full disclosure of the track record of any and all educational innovations. Such a policy should require that experimental evidence of success and statistical validation of any proposed programs be presented and verified before adoption by localities. Any program or innovation without such validation would be considered experimental.

Such a policy would go a long way toward protecting students and parents as educational consumers, and would serve to restore an element of trust between the schools and the community that, in too many cases, has been broken.

Robert Sweet, President of the National Right to Read Foundation, has proposed the following sample policy language:

> *"Experimental programs or curricula shall not be implemented without full disclosure to parents of affected students as to the claims, philosophy, reason for the decision to implement the new program, identity of advocates and opponents of the new program(s), funding sources and their stated reasons for supporting or opposing it. No student shall be assigned to any experimental program without the express written consent of the student's parents.*
>
> *"Any experimental program or curricula recommended by the (school board) for adoption in the school district shall be on a limited, trial basis, subject to objective statistical validation by the school district. The length of time that the experimental program will be in use shall be determined and approved by the (school board)."*[73]

Mr. Sweet also proposes that, in order to be considered for adoption, material put forth by publishers or proponents be accompanied by written assurances of statistical validation.

Ongoing evaluations of programs, especially new ones, are critical to ensure the effectiveness of changes and to prohibit the advocacy of change for its own sake. Dr. Michael W. Kirst, professor of education at Stanford University, cites the need for "research that isolates cause-effect relationships. State policy makers need to know whether there are identifiable cause-and-effect relationships between student achievement and (other) interventions."[74]

"State policy makers need to know whether there are identifiable cause-and-effect relationships between student achievement and (other) interventions."

Dr. Michael W. Kirst, Stanford University

2. Encourage changes at the colleges of education which will promote a sense of ethical responsibility in the use of educational innovations.

There appears to be a tendency among some colleges of education to present untested innovations as established fact. This is a disservice to the aspiring teachers, to their future students, and to the community at large.

It is noted by E.D. Hirsch of the University of Virginia that "Not only do our teacher training schools decline to put a premium on nuts-and-bolts classroom effectiveness, but they promote ideas that actually run counter to consensus research into teacher effectiveness."[75]

Dr. Pogrow of the University of Arizona points out:

"We no longer need colleges composed largely of individuals and courses that spread the latest incantations of unworkable myths. Rather, we need organizations that can integrate research and philosophy with the development and large-scale testing of new technologies...Education can no longer afford a research and academic community that is detached from the real processes that take place in schools and from the large-scale consequences of the ideas that it proposes. Education can no longer afford a well-intentioned but inept progressive movement and a too-limited traditional movement...The result has been inefficiency and waste."[76]

"We no longer need colleges composed largely of individuals and courses that spread the latest incantations of unworkable myths. Rather, we need organizations that can integrate research and philosophy with the development and large-scale testing of new technologies."

Dr. Stanley Pogrow, University of Arizona

Such changes would go a long way in restoring the trust of the public for public education, and the trust of educators in the efficacy of new reforms. As one teacher who was interviewed by Public Agenda stated: "I'm getting tired and frustrated trying out [the ideas in] other people's masters and doctoral theses just to see if they work."[77]

Issue 3: Phonics

Introduction

There are few issues in education as contentious as the debate between phonics and whole language. As Dr. Barbara Foorman of the University of Houston declares: "Phonics has become a dirty word. And for anyone who cares about how children learn to read, it is important to understand why this has happened."[78]

To understand the debate, it is important to understand the terminology[79]:

1. **Phonemic or phonological awareness** is the ability to detect alliterations (matching sounds at the beginnings of words) and rhymes (matching sounds at the ends of words). The playfulness of nursery rhymes and word games are components which enhance phonological awareness.

2. The **phonetic code** is the correspondence of letters and specific combinations of letters in a written language to the sounds they represent in the spoken language. A phonetic code exists in every non-pictograph written language.

3. The **phonics** method of teaching reading is based upon the knowledge that letters correspond to sounds, and is generally taught *explicitly* and methodically. It is predicated on the tenet that while learning to speak a language may be the natural process of very young children immersed in a spoken language, learning the phonetic code of written language is not. Components include recognizing the relationship between letters and sounds, blending letter sounds, recognizing spelling patterns, and sounding out words. It is also known as "*decoding*," because learning the letter/sound associations can be compared to "breaking a code."

4. **Look-say** is the method of early reading instruction which relies on the ability of students to recognize words by their shape or by rote memorization, with little reliance on the sounds represented by letters and letter combinations.

5. **Whole language** is the method of teaching reading based upon the belief that reading is a natural extension of spoken language and will emerge in a language-rich environment. If the phonetic code is taught, it is done so *implicitly*, as deemed appropriate. Components include exposure to many sources of written materials, writing stories with inventive spelling, and a deemphasis on exact meanings.[80]

This entire debate actually has a philosophical basis: Can children be taught how to read directly, with explicit instruction, or can they be taught to read through immersion in a language-rich environment? Traditionalists believe that direct instruction is needed to teach reading, while developmentalists believe that, with a little coaching, reading will naturally emerge.

Developmentalism is based upon a philosophy that discourages excessive adult intervention in the "natural" progression of children's learning. Proponents claim that

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[80] Please note that this definition of whole language is the technical definition used by experts. There are other definitions of whole language used by practitioners. Generally, these refer to a "language-rich environment," and are often used interchangeably with the phrase "integration of literature throughout the curriculum." It appears as though the exact meaning of the term "whole language" might vary from division to division.

certain teaching practices are "developmentally inappropriate" if they involve adult direction and are not child-centered. Dr. J.E. Stone of East Tennessee State University calls developmentalism "a form of romantic naturalism that inspires teacher discomfort with any practice that is deemed incompatible with natural developmental processes."[80]

Of the 760 federal education programs, only 1.8% are reading related.[81]

Whole language is based upon the premise of developmentalism. Whole language experts refer to the practice as "bring(ing) children into literacy in a *natural* way, by bridging the gap between children's own language competencies and written language"[82] (emphasis added).

However, Dr. Stone asserts:

> *"When whole language proponents express concern about skill-sequence approaches to reading...they worry that the interest in reading that otherwise naturally emerges might be lessened. Criticism of drill, corrective feedback, and the use of incentives are typically founded on the same argument. If, however, nature is permitted the opportunity to work its effects, developmentalists assume that the expected skills and interest will emerge, and without exposure to the hazards inherent in intervention."*[83]

Traditionalists believe that adults have a duty to explicitly guide and direct children in all aspects of learning, especially in learning to read. Developmentalists believe that reading will emerge when the conditions are right. Thus, the two sides come into conflict over philosophies as well as methodologies.

What Does the Research Tell Us?

In 1994, California fourth graders ranked last in the nation in the reading portion of the National Assessment of Educational Progress (NAEP). It is interesting to note that these fourth graders started kindergarten shortly after whole language was mandated as the exclusive methodology for teaching beginning reading in California in 1988.[84]

In 1994, California fourth graders ranked last in the nation in the reading portion of the National Assessment of Educational Progress (NAEP). It is interesting to note that these fourth graders started kindergarten shortly after whole language was mandated as the exclusive methodology for teaching beginning reading in California in 1988.

This correlation was not lost on the decision-makers of that state. A task force to study the unprecedented decline in scores concluded that "mandating whole language statewide was a mistake."[85] In 1995, both houses of the California state legislature unanimously passed a bill which requires that any materials adopted by the State Board of Education for the teaching of reading include "intensive, systematic phonics."[86]

One has to wonder how California allowed this to happen. Although California has a "learner verification" law which requires that only tested (as opposed to experimental) approaches be used, the state legislature was persuaded to waive the law to advance whole language.[87]

And whole language was implemented with vigor. One teacher reported that "officials in some elementary schools seized phonics books and spellers to ensure that teachers were not ignoring the new (whole language) instructional materials."[88]

Virginia's fourth graders posted the largest decline in the nation in reading scores on the 1994 NAEP exam. It is interesting to note that the students who were fourth graders in 1994 began kindergarten shortly after Virginia dropped the phonics texts from the state list in 1989.

Although it had been around for some time, the fad suddenly picked up momentum and jumped from the west coast to the east coast. *Joining the whole language movement, Virginia removed all phonics-based textbooks from its state-approved list of reading books in 1989.* As noted earlier, Virginia's fourth graders posted the largest decline in the nation in reading scores on the 1994 NAEP exam. It is interesting to note that the students who were fourth graders in 1994 began kindergarten shortly after Virginia dropped the phonics texts from the state list in 1989.

James Ellingson of the National Assessment Governing Board suggests that a "diminished position for phonics in classrooms could be contributing to the reading problems." [89] After all, the reading decline occurred during a period when there was "no change in homework, in computer use or in television watching." [90]

A child taught by whole language should be able to memorize 1,554 words by the end of the fourth grade.. By comparison, children taught using intensive, systematic phonics can read and understand at least 24,000 words by the end of the fourth grade – possessing the ability to read virtually anything.

Reading by the whole language method depends upon the memorization of words by sight, not sound. A child taught by whole language should be able to *memorize 1,554 words* by the end of the fourth grade. This method is used in approximately 85% of the nation's schools. By comparison, children taught using intensive, systematic phonics can *read and understand at least 24,000 words* by the end of the fourth grade – possessing the ability to read virtually anything. At present, it is reported that fewer than 15% of our nation's schools use intensive, systematic phonics.[91]

Adding to the overwhelming evidence in support of teaching phonics, a recent federally-funded study at the University of Houston has demonstrated in actual classrooms that intensive drills in phonics and the building blocks of words makes young students better readers. Reading gains for students taught phonics averaged *twice* those of students taught using whole language. The study was conducted among 374 first and second graders who were performing below ability. It found that students exposed to explicit, intensive phonics drills performed at the 42nd percentile on a nationally administered standardized test, while those in whole language classes were at the 23rd percentile. Another group of students who were taught phonics implicitly, using only the words appearing in their readers, ranked just slightly better at the 27th percentile.

Reading gains for students taught phonics averaged *twice* those of students taught using whole language.

Dr. Barbara Foorman, the University of Houston educational psychologist who directed the study, attributed the remarkable results to the explicit and deliberate use of phonics: *"What we're doing here...is getting these economically disadvantaged, low achievers almost up to the national average with just good classroom instruction, but the percentiles that the whole language kids end up with are indicative of a reading disability."* [92]

Foorman found that old-fashioned word and flashcard drills can develop those critical skills and that those skills help readers improve.

Nearly thirty years of research overwhelmingly supports the teaching of reading by the phonics method as opposed to the whole language approach at the early elementary grades. The head of Harvard's remedial reading lab, Professor Jeanne Chall, refers to the move to whole language as "shocking." Many of the children coming to her for remediation were taught by the whole language method.[93]

Nearly thirty years of research overwhelmingly supports the teaching of reading by the phonics method as opposed to the whole language approach at the early elementary grades.

Dr. Betty Price, a reading specialist with Professional Reading Services in Roanoke, Virginia, laments:

> *"Frustrated students, unable to read, both rich and poor, are shunted off to federally-funded special-education classes where 25% now wear a label – learning disability, dyslexia, attention deficit syndrome, behaviorally handicapped, hyperactive...They are the children of doctors, lawyers, educators, and successful business people, but they cannot read well enough to accomplish what their mental abilities indicate achievement should be. All are frustrated....Most of these same students have nothing really wrong with them. They simply have not been taught to read..."*

Dr. Price notes that she has been able to have *100 percent success* with her clients using a language acquisition approach which emphasizes intensive, systematic phonics.

Phonics advocate and author of Why Johnny Can't Read, Rudolph Flesch, found that of the 124 studies conducted between 1911 and 1981 which compared the teaching of phonics with the whole language approach, *not one* found whole language to be superior to phonics.[94]

The literature on reading is overflowing with examples of the success of the phonics method:

- A phonics curriculum known as "Sing, Spell, Read, and Write" has produced phenomenal gains in reading achievement. In Aberdeen, Mississippi, reading comprehension scores on the Stanford Achievement Test rose from 37% to 71% after one year of implementation. Total reading scores went from 39% to 81% in the same period (1987/88). Fayette County, Alabama, experienced similar results on the California Achievement Test. Reading comprehension went from 39% to 82% in one year, and the total reading score skyrocketed from 29% to 91% during the same period (1988/89).[95]

- At eighteen, Kenny could read four words and spell two. Already on his third incarceration in a maximum security facility, most people had given up on him. But then came Dr. Jane Hodges of the Mississippi University for Women. Kenny received thirty to forty-five minutes of daily instruction in Dr. Hodges' phonics-based curriculum, known as "Winning." In less than three months he was reading and writing at the sixth grade level.[96]

- Although a teenager, Richard was reading at the second grade level when he was placed in the Ferris School for Boys, a correctional facility in Delaware. He spent one school year being instructed with SRA's phonics-based Corrective Reading Program and "at the close of the school year in June, Richard had attained an oral reading rate of 150 words per minute at a seventh grade reading level, a growth of five academic levels in one academic year."[97]

An independent research fellow with the federal Office of Juvenile Justice and Delinquency Prevention, Mike Brunner has discovered a high correlation between juvenile delinquency and the inability to read.[98] He declared that "at-risk youth are not receiving the type of reading instruction recommended by years of research."[99]

Why wait for remediation when intensive phonics at the early elementary grades could help to prevent such failure in the first place?

The interventions above show the remarkable results possible with a phonics-based approach, but the larger question is this: Why wait for remediation when intensive phonics at the early elementary grades could help to prevent such failure in the first place? The implications for the lives of individuals – as well as for the well-being of our society – demand that we give serious attention to this issue.

Illiteracy costs taxpayers billions of dollars through increasing layers of taxpayer-funded remediation programs. Employee training in language skills costs corporations an estimated $300 million each year.[100] Functionally illiterate adults cost America $224 billion each year in welfare payments, crime, job incompetence, lost taxes and remedial education.[101] Today, 85 percent of juvenile delinquents and 75 percent of adult prison inmates are illiterate.[102]

But those who argue that phonics is *all* that children need are missing one important fact: success at phonics is dependent first upon a base of phonological awareness.

Consider these research findings:

- "For children 4 to 5 years of age, both letter-sound knowledge and phonemic awareness need to be established for acquisition of the phonetic principal."[103]
- "It may be that training in oral phonemic awareness should be a routine precursor to reading instruction."[104]
- "Children will not benefit from phonics instruction until they gain some phonemic awareness."[105]
- "Children who finish first grade with poor word recognition skill may benefit from retention if they start the repeated year with increased phonemic awareness."[106]
- "The low socioeconomic status or minority child frequently needs more phonemic awareness."[107]
- "Without phonemic awareness, exposure to print does little to foster spelling-sound knowledge."[108]
- "Children who became poor readers entered first grade with little phonemic awareness. By the end of fourth grade, the poor readers had still not achieved the level of decoding skill that the good readers had achieved by the beginning of second grade."[109]

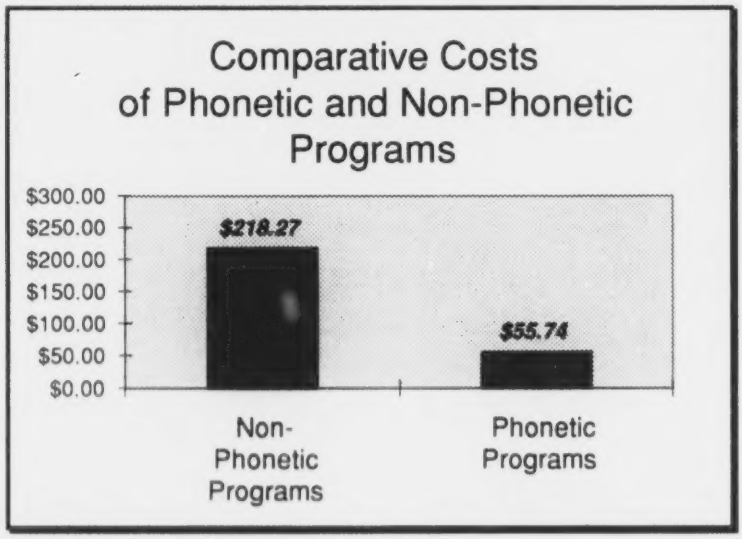
Dr. Connie Juel of the University of Virginia notes:

"In my research, a vicious cycle seemed evident. Children who did not develop good word-recognition skills in first grade began to dislike reading and read considerably less than good readers, both in and out of school. They thus lost the avenue to develop vocabulary, concepts, ideas, and so on that is fostered by wide reading. This in turn may have contributed to the steadily widening gulf between the good and poor readers in reading comprehension and written stories."[110]

"Children who did not develop good word-recognition skills in first grade began to dislike reading and read considerably less than good readers, both in and out of school... This in turn may have contributed to the steadily widening gulf between the good and poor readers..."

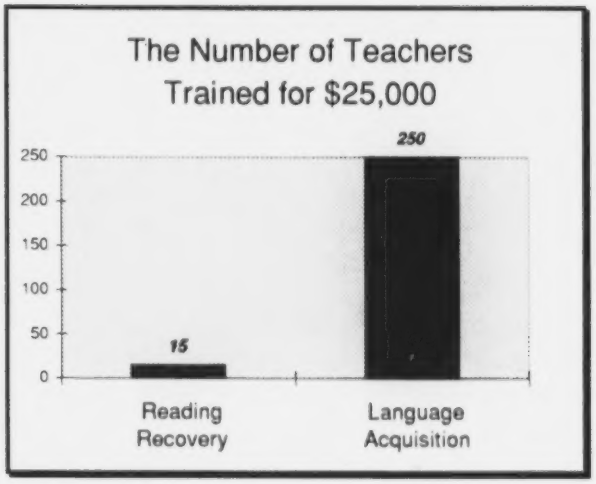
Dr. Connie Juel
University of Virginia

Dr. Hodges believes that the movement to replace phonics with the "look-say" method at the early elementary grades is immoral. She states: "Every public school in America should be required *by law* to teach beginning readers to read by the phonics method."[111]

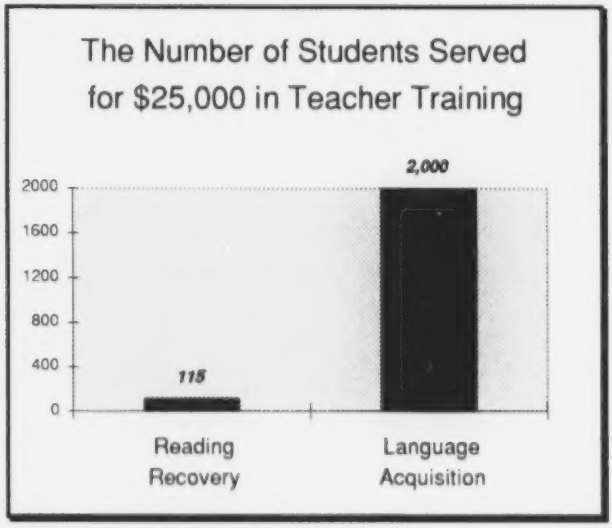


A U.S. Department of Education study examined over 50 reading programs currently used in the public schools. Limiting the report to print programs only, a cost analysis of each program was conducted. The cost of an average phonics program is much less than the cost of an average whole language program.

The average per-pupil cost of a phonetic program is $30.34, while the average per-pupil cost of a non-phonetic program is $214.53. Of the fifteen phonics-based programs reviewed, the highest per pupil cost of any program was $110.88 with the median per pupil cost at $55.74. The thirteen non-phonetic programs reviewed had a highest per pupil cost of $312.97 and a median per pupil cost of $218.27.[112]



Training costs for phonetic and non-phonetic teacher training vary widely, as well. Consider Reading Recovery, a popular early intervention model, versus Language Acquisition, a phonics-based approach. The cost of training 15 teachers (one teacher leader and 14 classroom teachers) to implement the Reading Recovery program, including materials and operating costs, is $25,000.[113]



These 15 teachers, once trained, would then serve 115 students, or approximately 8 students each. The Language Acquisition program offered by Professional Reading Services in Roanoke can train 50 teachers for $5,000. Using the Reading Recovery figure of 8 students served per trained teacher, this $5,000 investment would serve the needs of 400 children. And for a $25,000 investment, 250 teachers could be trained, meeting the needs of 2,000 students. To reach 2,000 students with Reading Recovery would cost over $400,000.

It is reported that success is achieved by "between 65% and 86% of the children in the Reading Recovery Program."[114] However, as has been noted, Dr. Price of Professional Reading Services indicates that she has a 100% success rate using an intensive phonics-based approach.

Appropriate teacher training in reading is essential. As Dr. E.D. Hirsch of the University of Virginia states:

> *"If reading researchers prove to be right, once a first-grade teacher has been taught how to bring every non-impaired child to a level of reading competence, failure to accomplish that goal should simply not remain a professional option."*[115]

Virginia's High Achieving Schools

Well aware of the contentious nature of the phonics-whole language debate, many of the educators interviewed for this research study were very cautious in admitting their support for phonics. However, those exceptions were unabashedly enthusiastic in their support.

When the phonics-based texts were removed from Virginia's state-approved list, one educator in a high achieving divisions stated that there was only one recourse: "We had to cheat. We kept our old textbooks and used them."

Several educators indicated that they saw whole language as a fad from the very beginning. According to one: "I have been in education since the mid-60s, and the establishment will always find out the vanguard and go with it. They are more interested in making a name for themselves – not in education or children." And the powerful quote from the "troglodyte" earlier certainly drives the point home.

When the phonics-based texts were removed from Virginia's state-approved list, one educator in a high achieving divisions stated that there was only one recourse: "We had to cheat. We kept our old textbooks and used them."

Some courageous educators are willing to stand up against faddism even when such action is unpopular, politically incorrect, and career-threatening.

Recommendations

1. A truce must be declared between advocates of whole language and advocates of phonics.

The National Center to Improve the Tools of Educators (NCITE) spent years of research in developing ten principles to guide educators and parents in teaching children to read. Dr. Edward J. Kameenui, director of this reading research project, recently released the findings of this project and declared that "the evidence is undeniable that a strategic approach – one that begins at an early age and teaches kids that language is made up of sounds, syllables, and words – is essential."[116]

"The evidence is undeniable that a strategic approach - one that begins at an early age and teaches kids that language is made up of sounds, syllables, and words - is essential."

Dr. Edward J. Kameenui
The National Center to Improve the Tools of Educators

The ten principles are:

1. Understand that language is made up of words, syllables, and sounds.
2. Learn the alphabet.
3. Learn letter sounds.
4. Understand the relationship between letters and words.
5. Sound out new words.
6. Identify words in print accurately and easily.
7. Know spelling patterns.
8. Develop awareness of printed language.
9. Develop appreciation of the written word.
10. Learn to read reflectively.

2. The relationship between the discontinuation of phonics-based textbooks on the state-approved list in 1989 and the massive decline in reading scores on the 1994 NAEP should be explored.

This apparent correlation needs to be explored. What research has been done to determine the cause of the 1994 drop in scores? Is there a connection to the lack of phonics texts? Is there a correlation to the widespread dissemination of the whole language philosophy? Or are there other variables affecting this decline in reading performance? If so, what are they?

3. Changes need to occur in our colleges of education.

> "I think this type of class should be a requirement for all teachers K-3. I would like to see the school systems spend more money on this workshop."

Dr. Kenneth Lexier, an educator in Maine, believes that the fact that most colleges of education are not preparing teachers to teach phonics "may be one of the most outrageous injustices perpetuated" by these institutions. He further charges that "the bias is clear and undeniable – phonics is out and whole language is in...This is a conspiracy deserving of a Washington Post exposé."[117]

Teachers cannot be expected to teach what they themselves have never learned. One reading expert, Dr. Louisa Cook Moats, declares that "program requirements and state certification standards must be upgraded nationwide."[118]

Dr. Betty Price of Professional Reading Services in Roanoke has led many successful training sessions in the teaching of both phonemic awareness and phonics. Some of the comments from the Virginia teachers who studied with her include the following:[119]

> "I feel some concern about the freedom to use this information due to the stress on whole language."

- *"It was interesting to find out that many of the teachers had similar problems in teaching reading."*
- *"I have felt this was a missing part of my college education."*
- *"I think this type of class should be a requirement for all teachers K-3. I would like to see the school systems spend more money on this workshop."*
- *"Although I learned these concepts as a child, I was instructed in college in the whole language approach and had only a glimpse of teaching 'the structure' of language."*
- *"I was amazed at all the things I did not know about the English language."*
- *"I sat through this whole class wondering why I was not taught these techniques in college."*
- *"I would have liked this to have been a part of my teacher education. I kept asking when someone was going to teach me how to teach phonics."*
- *"Teachers are not being prepared to handle reading problems."*
- *"I feel that I should have been taught these techniques in college."*
- *"Teachers need this early in their studies! All teachers need it!"*
- *"I feel some concern about the freedom to use this information due to the stress on whole language."*

4. **Those educators who support phonics instruction need to receive support from the public.**

Note the last quote from one of Dr. Price's students. Teachers and administrators who support phonics need the support and encouragement of their communities.

5. **It may be wise to consider a controlled study comparing the results of approaches such as Reading Recovery with those approaches which are phonetic-based.**

The evidence of success, as well as the cost-effectiveness, of phonetic-based approaches is too overwhelming to dispute. A controlled study comparing both approaches is urgently needed.

6. **A deliberate effort must be undertaken to assure that all children are reading before they enter second grade.**

Dr. Juel admonishes that "educators must make certain that children learn to decode in first grade."[120]

A 1986 U.S. Department of Education study, What Works, analyzed more than 100 reading studies and concluded that "the skill of reading must be completed by the end of the first grade, and it must be taught by direct, systematic, intensive phonics."[121]

It is important to encourage our schools to set this goal and work diligently toward it.

> "The skill of reading must be completed by the end of the first grade, and it must be taught by direct, systematic, intensive phonics."
>
> *"What Works"*
> *U.S. Department of Education*

Issue 4: Semester (4x4) Block Scheduling

Introduction

Block scheduling is a fairly new educational innovation which replaces the six or seven period day with longer "blocks" of time. Usually there are four blocks daily, with some variations. In this way, students take four classes each semester rather than six or seven over the course of an entire year.

What Does the Research Tell Us?

Although this is becoming a popular option for many high schools, research indicates that there are some problems related to this approach. These include problems related to scheduling, most of which affect the performing arts, and a drop in student achievement, which occur in the core academic courses.

A study of the effects of block scheduling in Colorado found that 77% of all high schools which changed to a 4x4 block had a reduction in music enrollments, and 99% of those students dropping music did so because of scheduling conflicts.[122] It is reported that, in Kentucky, 53% of all band and chorus students dropped their music classes when block scheduling was introduced.[123]

Here in Virginia, there has been a 15% to 20% loss of enrollment in the school band for each year that Pulaski High School has had block scheduling. And in Chesapeake, there was a 50% loss of varsity chorus students as well as a 50% loss of junior varsity band members the first year block scheduling was implemented.[124]

> "The all-year students scored significantly higher than either of the semester [block-scheduled] groups on every objective and domain of the assessment."
>
> *Dr. David Bateson*
> *University of British Columbia*

A report from the College Board indicates that students who are enrolled in arts programs have higher scores on college entrance exams than those students who are not active in the arts. The math scores of arts students are 24 to 32 points higher than those students who are not enrolled in the arts, and verbal scores are 38 to 62 points higher.[125]

The College Board has also noted a direct effect of semester block scheduling on student academic performance on Advanced Placement (AP) exams: "Semester block scheduled students did much worse in the sciences and U.S. History but about the same or a little better in most English and foreign language examinations."[126]

This observation by the College Board has also been demonstrated in a number of research studies. For example, one study from the Ontario Institute for Studies in Education found that "achievement differences in biology and chemistry tended to favor students enrolled in non-semestered [non-block scheduled] classes."[127] In another study dealing with science achievement, a researcher reported that "the all-year students scored significantly higher than either of the semester [block-scheduled] groups on every objective and domain of the assessment."[128]

> "There may be many reasons for choosing a semester organization for a school, but educational advantage in terms of students' attitudes and achievement does not appear to be one of them."
>
> *Dr. Dennis Raphael*
> *The Ontario Institute for Studies in Education*

Another study found that, in mathematics, not only did students in a traditional year-long schedule outperform the block scheduled students on an international math study, but they did so on nearly every subscale of the test. The researchers concluded: "There may be many reasons for choosing a semester organization for a school, but educational advantage in terms of students' attitudes and achievement does not appear to be one of them."[129]

Our High Achieving Schools

As noted earlier, the only high achieving schools in this study which have adopted semester block scheduling are those in Northern Virginia, with the exception of Highland. One principal quoted earlier, Dr. Ron Flowe of West Point, stated: "I am not against block scheduling, but I am still waiting to see the research which shows that it is worth the switch. The question school divisions need to ask is this: 'What do you think you will achieve by this?' It makes no sense to change simply because everyone else is doing it."

Recommendations

1. Educators should move with extreme caution when considering block scheduling, as the preliminary research does not indicate that this scheduling option enhances student performance.

The attitude of Dr. Flowe appears to be a wise one: Wait until there is empirical evidence before making the commitment to block scheduling. As one researcher concluded: "Given that students' achievement seems to be detrimentally affected by full-credit semester timetables, administrators should carefully consider whether the convenience and other actual benefits of adopting a semester timetable are worth the potential price in terms of student achievement."[130]

> "The question school divisions need to ask is this: 'What do you think you will achieve by this?' It makes no sense to change simply because everyone else is doing it."
>
> *Dr. Ron Flowe, Principal*
> *West Point*

Issue 5: Ability Grouping

Introduction

As with phonics and whole language, many Virginia educators were reluctant to discuss the grouping practices in their districts. This reluctance may be due in part to the same reason for the reluctance to discuss phonics: both issues are intensely controversial.

It is little wonder that the topic is often debated when one considers that "ability grouping" is a phrase which is sometimes confused with "tracking." The practice of tracking was long ago laid to rest. It involved placing all students into rigidly separated groups on what commonly was a permanent basis. Very often, this meant relegating minorities to the lowest track. By contrast, ability grouping is a flexible option which allows students with specific needs to be grouped together for more targeted instruction.[131]

> The practice of tracking was long ago laid to rest. Ability grouping, by way of contrast, is a flexible option which allows students who have specific needs to be grouped together in order to meet their unique educational needs more adequately.

However, considerations of social policy, politics, affirmative action, and anti-gifted attitudes often play a larger role than an assessment of individual educational needs in whether or not ability grouping is practiced.[132]

Heterogeneous (mixed ability) grouping is favored by those who see public education as the opportunity to address social issues. They often view ability grouping as elitist and/or racist in nature, and express support for educational equality.[133] This is often called the Jacksonian view, "that public education must be the great leveler."[134]

Considerations of social policy, politics, affirmative action, and anti-gifted attitudes often play a larger role than an assessment of individual educational needs in whether or not ability grouping is practiced.

Homogeneous (like ability) grouping is favored by those who look to the individual needs of students over group needs or the perceived needs of society. Proponents of ability grouping generally view the purpose of public education to be the fulfillment of individual potential, as opposed to the attainment of social aims, and express support for educational excellence.[135] This view reflects the Jeffersonian tradition of acknowledging the responsibility of a democracy in furthering excellence:

"By that part of our plan which prescribes the selection of the youths of genius from among the classes of the poor, we hope to avail the state of those talents which nature has sown as liberally among the poor as the rich, but which perish without use, if not sought for and cultivated."[136]

What Does the Research Tell Us?

Only 34 % of the general public indicated support for heterogeneous (mixed ability) grouping. And it can be argued that if the question had not been biased, the percentage of people supporting mixed-ability grouping would probably have been lower.

Although heterogeneous (mixed ability) grouping is touted as the grouping plan of choice in many educational journals and by many education reformers, the public has yet to be convinced that this practice is sound. Public Agenda recently surveyed members of the public about their preferences for heterogeneous (mixed ability) or homogeneous (like ability) grouping. Only 34 % of the general public indicated support for heterogeneous (mixed ability) grouping.[137] And it can be argued that if the question had not been biased, the percentage of people supporting mixed-ability grouping would probably have been lower.[138]

"Teachers and the public share similar concerns: They fear high achievers and average students will be held back while teachers attend to the needs of low achievers; or that students with difficulties will never get the attention they really need."

Public Agenda

The Public Agenda report also indicated that 59% of the teachers surveyed are either equivocal or do not see the practice as instrumental in improving academic achievement.[139] Again, these results are from the use of a biased question. The Public Agenda focus group discussions uphold the idea that the questions were biased, as the comments indicate that there is probably less support for heterogeneous grouping than even these numbers suggest: "Focus groups suggest that teachers and the public share similar concerns: They fear high achievers and average students will be held back while teachers attend to the needs of low achievers; or that students with difficulties will never get the attention they really need."[140]

These fears have been addressed by serious researchers. Many agree that "the preponderance of evidence does not support the contention that children are academically harmed by (like ability) grouping."[141]

Consider some of their findings:

1. Ability grouping does not cause average and below average students to lose "role models," as children tend to model or imitate those of like ability.[142]
2. If high-achieving students are removed from the classroom, the achievement of neither average nor below average students suffers.[143]
3. Grouping above-average students together benefits average and below-average students by "providing some relief from the intellectual dominance" of those students.[144]
4. "High-quality instruction may be more easily obtained in a class where students are similar in their prior knowledge and skills."[145]

If high-achieving students are removed from the classroom, the achievement of neither average nor below average students suffers.

There will be those who claim that other research refutes these findings. However, there is ample evidence that such research has either been misinterpreted or accepted without question. As one author states: "The most destructive aspect of the controversy over ability grouping is the misrepresentations of the findings."[146] And another asserts that "educators have uncritically accepted" the idea that homogeneous (like ability) grouping is harmful and heterogeneous (mixed ability) grouping is beneficial "when little empirical proof has been presented."[147]

One of the biggest myths about homogeneous (like ability) grouping is that it, and any other services for highly motivated or gifted children, is implicitly racist. One of the most active advocates for doing away with all ability grouping, Dr. Mara Sapon-Shevin of Syracuse University, states that "parental demand for and the increased interest in gifted programming can be traced directly to the increasing racial integration of many schools and communities."[148] She gives no citation for this statement, but we can assume she is referring to the increased interest in gifted programming which began in the late 1950's.

She has apparently drawn the conclusion that the increase in gifted programming in the late 1950's is the result of the 1954 Supreme Court ruling in *Brown vs. the Board of Education* which set the stage for school desegregation. However, one of the first lessons that anyone in educational research learns is that a correlation does not necessarily reflect a cause and effect relationship. There may be other factors which are influencing the apparent correlation. In this case, Dr. Sapon-Shevin apparently chose to overlook "the shock of Sputnik in 1957" which "triggered unprecedented action on behalf of the gifted."[149]

The myth that homogeneous (like ability) grouping is "a camouflage for racial prejudice" can also be deflated by observing what minority parents want for their own children. Public Agenda found that "opposition to heterogeneous (mixed-ability) grouping is as strong among African-American parents as among white parents, and support for it is equally weak."[150]

"Opposition to heterogeneous (mixed-ability) grouping is as strong among African-American parents as among white parents, and support for it is equally weak."
Public Agenda

The myth that homogeneous (like ability) grouping is "a camouflage for racial prejudice" can be deflated by observing what minority parents want for their own children.

This finding also disputes Dr. Sapon-Shevin's assertion that, when it comes to being vocal about the needs of high-performing children, "parents whose own educations have been constrained by racism or poverty often lack the confidence to speak out."[151] This is demeaning to the many minority parents who have overcome great odds themselves, and who therefore want their children to have the opportunities which may have been denied to a different generation. All parents who have high aspirations for their children should be applauded for their ongoing efforts to obtain the most appropriate educational experience possible for their children.

"It seems amazing, then, that at a time of mass underachievement among American youth, we have serious researchers…advocating heterogeneous grouping and opposing ability grouping."

Dr. John Feldhusen
Purdue University

As some researchers have noted: "It seems amazing, then, that at a time of mass underachievement among American youth, we have serious researchers…advocating heterogeneous grouping and opposing ability grouping." Such an educational practice "is advocated as a means to social change" and is "probably heavily influenced by social and political value systems."[152]

It should be lamented that the issue of equality versus excellence is presented too often as an "either/or" dichotomy.[153] Utilizing flexible alternatives in grouping practices, scheduling, and differentiation of the curriculum may ultimately prove that these two concepts need not be mutually exclusive:

> *"Improving the quality of education for all requires that we be sensitive to the needs of all and plan educational experiences accordingly. Equality of opportunity and equality of treatment in education, however, are not the same – nor should they be. In any profession, the client's needs dictate the nature of the prescription. High-quality services should be available to all, but the nature and organization of those services should vary based on diagnosed need. Education can ill-afford to level its services lest the bitter pill of mediocrity be absorbed into the bloodstream of all our students."*[154]

"Heterogeneous grouping makes no intuitive sense to people and seems to fly in the face of their real-world experiences."

Public Agenda

As Public Agenda concludes: "Heterogeneous (mixed-ability) grouping makes no intuitive sense to people and seems to fly in the face of their real-world experiences."[155]

Virginia's High Achieving Schools

In spite of both the research evidence and the public's intuitive discomfort with and skepticism of heterogeneous (mixed ability) grouping, many of the educators interviewed for this study acknowledged the practice of homogeneous (like-ability) grouping in their schools with both hesitation and caution. Perhaps this is because the topic is highly controversial, since the issue of homogeneous (like-ability) grouping is considered by many to be "politically incorrect."

The vast majority of Virginia's high achieving divisions have chosen to disregard the movement away from ability grouping, and actively utilize many forms of homogeneous (like ability) grouping.

The vast majority of Virginia's high achieving divisions have chosen to disregard the movement away from ability grouping, and actively utilize many forms of homogeneous (like ability) grouping. Many use a combination of several approaches. For example, a heterogeneous (mixed ability) classroom might group within the class by ability for reading and math. This popular option, sometimes known as "cluster grouping," can be used to successfully differentiate curriculum and instruction for one or more subjects within an otherwise heterogeneously mixed class.[156]

Recommendations

1. Support the practice of flexible ability grouping.

Homogeneous (like ability) grouping gives teachers a narrower range of abilities with which to work. The results indicate that this practice helps to produce higher achieving students.

2. Show your support for those educators and administrators who utilize ability grouping.

This topic is highly controversial, and those educators who actively support it may be opening themselves to charges of racism, elitism, and of being politically incorrect. They will need visible public support in their efforts.

Issue 6: School Size

Introduction

The Commonwealth of Virginia is incredibly diverse, and this diversity extends to its school divisions. Some divisions are extremely large, such as Fairfax with 135,422 students, and others are very small, like Highland, with 388 students. There appears to be two types of high achieving schools in this study: those in large, affluent communities and those in smaller, less affluent communities.

What Does the Research Tell Us?

Intuitively, most people have the feeling that small is better, and current research bears this out.

> "Small schools are shown to disrupt the usual negative relationship between socioeconomic status and student achievement." Teachers in small communities are "generally more committed to the communities where they teach than to the pursuit of a brilliant career. For the most part, they are skeptical of state and national reforms, perhaps with justification."
>
> *Dr. Craig Howley*
> *Director, ERIC Clearinghouse*

Two research analyses, one evaluating student achievement in California[157] and the other assessing student achievement in West Virginia,[158] suggest that "large schools benefit affluent students, whereas small schools benefit impoverished students."[159]

The data suggest that "small schools are shown to disrupt the usual negative relationship between socioeconomic status and student achievement."[160] How does this occur? The researchers suggest that this is due in part to the fact that teachers in small communities are "generally more committed to the communities where they teach than to the pursuit of a brilliant career. For the most part, they are skeptical of state and national reforms, perhaps with justification."[161]

Virginia's High Achieving Schools

The data in this study suggest that there may be a positive correlation between small school size and high student achievement.

Recommendations

1. **Future studies should investigate the relationship between school size and student performance.**

There is enough evidence to warrant serious study of this relationship, as well as its implications for future policy and construction decisions.

Issue 7: The Uses of Testing

Introduction

There are many different reasons why educators test students. Testing may be used to measure student performance against certain standards (criterion testing), to compare student performance with that of another group (norm referenced testing), or to assess where a student has strengths and/or weaknesses (diagnostic testing).

What Does the Research Tell Us?

Numerous studies have shown that students who know that they are going to be graded and tested study harder and learn more than those who choose to take courses without a grade.[162] Additionally, the research of Dr. John Bishop of Cornell has shown that high-stakes tests – that is, tests which have clearly defined and important consequences – motivate students to work hard.[163]

> "In the American context, [objective] tests are necessary to achieve excellence and fairness. They function as achievement-incentives for students and teachers, as ways of monitoring students' progress in order to remedy their deficiencies, and as essential helps in the administrative monitoring of classrooms, schools, and districts."
>
> *Dr. E.D. Hirsch*
> *University of Virginia*

Dr. E.D. Hirsch of the University of Virginia notes:

"In the American context, [objective] tests are necessary to achieve excellence and fairness. They function as achievement incentives for students and teachers, as ways of monitoring students' progress in order to remedy their deficiencies, and as essential helps in the administrative monitoring of classrooms, schools, and districts. Without effective monitoring, neither good teaching nor good educational administration is possible. Finally, and above all, objective tests are needed for academic fairness and social equity – the chief reasons that Americans, to their credit, have been pioneers in developing objective tests."[164]

Objective, multiple choice tests have come under attack in some quarters as an inappropriate way to measure higher levels of student achievement. These claims, however, are not supported by research: "The notion that multiple choice tests can tap only recall is a myth. In fact, the best multiple choice items can – and do – measure students' ability to analyze, synthesize information, make comparisons, draw inferences, and evaluate ideas, products, or performances."[165] Such tests "provide rich data for educational measurement" and give "a more detailed picture of student learning" than alternative forms of assessment.[166]

Virginia's High Achieving Schools

Respondents from nearly every high achieving division emphasized the importance of annual administration of the Iowa Test of Basic Skills (ITBS) for diagnostic purposes. Quotes from educators in high achieving divisions attesting to the importance of this practice were presented in the Honor Roll narrative section of this study.

> "Testing at every grade level every year is a very effective way of targeting areas for improvement."
>
> *Principal James Lanham*
> *New Kent*

As Principal James Lanham of New Kent stated earlier: "Testing at every grade level every year is a very effective way of targeting areas for improvement." Another respondent noted : "We spend a week of the students' time and tons of taxpayers' dollars on testing, so we are certainly going to utilize the results as best we can to diagnose where our students need help."

The majority of high achieving divisions administer the ITBS at a wide range of grade levels, not just at grades 4, 8, and 11 as required by the state. They find this information so useful and so necessary to their instructional programming that *they do so at their own expense.*

The majority of high achieving divisions administer the ITBS at a wide range of grade levels, not just at grades 4, 8, and 11 as required by the state. They find this information so useful and so necessary to their instructional programming that *they do so at their own expense.*

Such respect for testing by high achieving school divisions contrasts sharply with the lobbying efforts mounted by education organizations during the 1996 Virginia General Assembly session to prevent statewide testing from being administered at more than four grade levels.[xii] When high achieving school divisions have voluntarily chosen to devote classroom time to testing, stating that the diagnostic benefits outweigh the few hours lost, the arguments of lobbyists in Richmond that "testing takes up too much classroom time" ring somewhat hollow. Since these lobbying groups do not make that argument when it is proposed to use classroom time for non-academic activities, it should not be surprising that citizens and policy makers question the motivation behind the argument.

Recommendations

1. **An analysis should be conducted to determine if there is a correlation between annual standardized testing and improved student performance.**

Since this data suggest that such a correlation exists, further study is needed to confirm this finding.

2. **Localities which desire testing at more than four grade levels may want to make their case publicly.**

"Ongoing diagnostic tests, and a standardized reading test given to each child at the end of first grade, are the absolute duties of every modern educational system."
Dr. E.D. Hirsch, University of Virginia

A thoughtful explanation of the uses of test scores in the individualization of instruction and remediation may convince lawmakers that funding for testing is an appropriate use of the taxpayer's money. According to Dr. E.D. Hirsch: "Ongoing diagnostic tests, and a standardized reading test given to each child at the end of first grade, are the absolute duties of every modern educational system."[167]

[xii] Governor George Allen had requested $23 million to be allocated for testing, but largely in response to lobbying interests, the General Assembly only funded $12 million of that request and limited testing to four grade levels. Had the Governor's request been met, local money would have been saved, as the state would have assumed financial responsibility for testing at multiple grade levels.

Issue 8: Accountability

Introduction

Webster defines accountability as "the obligation to report, explain, or justify." The concept of accountability in education is often a contentious issue.

William Bennett, former U.S. Secretary of Education, notes: "Today, there are greater, more certain, and more immediate penalties in this country for serving up a single rotten hamburger than for furnishing a thousand schoolchildren with a rotten education."[168]

> "Today, there are greater, more certain, and more immediate penalties in this country for serving up a single rotten hamburger than for furnishing a thousand schoolchildren with a rotten education."
>
> *William Bennett*

What Does the Research Tell Us?

Educational accountability systems are now in place in several states. For example, Kentucky assesses the improvement of school districts as measured against their own baseline score on the state's performance-based assessments. South Carolina has several incentive programs in place which reward both outstanding educators and high performing schools, as measured by standardized test scores, attendance, dropout rates, and student improvement. The Texas accountability system is based upon student performance, degree of improvement, and dropout rates. All of these states provide monetary awards to their outstanding districts. Two of these states, South Carolina and Texas, have sanctions for schools which fail to comply with the state standards for performance.[169]

However, the real question involving accountability is not the mechanics of implementation, but the reasons for establishing accountability in the first place. According to Dr. E.D. Hirsch of the University of Virginia:

"It is a fundamental injustice that what American children are enabled to learn in school should be determined by what their homes have already given them…A child's initial lack of intellectual capital [knowledge] is not an immutable given that our schools are powerless to change; rather, it is a challenge that schools can meet."[170]

These sentiments are reflected in the rationale for the school accountability system in Texas:

"There is a growing body of research that indicates that while family conditions are beyond the control of schools, the methods for dealing with these conditions are within a school's control. Some classrooms and schools with hard to educate student populations show impressive results, [while] others do not. Variations in average student achievement scores across campuses and among schools with similar student populations are common, even within the same local school district. This strongly suggests that something is happening in some schools to improve student performance that is not happening in others."[171]

Virginia's High Achieving Schools

It is interesting to note that a sense of accountability is cited as one of the reasons for the notable success of Patrick County, as well as for the remarkable improvement in King and Queen County.

By setting goals and being responsible for attaining them, educators in both Patrick County and King and Queen County have established high standards and a sense of pride about meeting them.

Recommendations

1. **For schooling to be fair and equitable to all students, schools must be held accountable for student achievement results. Virginia should institute a statewide system of accountability.**

There are lessons to be learned from the educators in Patrick and King and Queen counties. Accountability was initially feared, but then became the accepted way of doing business. And the result? Exceptionally high achievement and remarkable improvement that are the envy of many other divisions in the state.

There are already indications of public support for such a system. In the summer of 1996, public hearings were held to get input on revisions to the Standards of Accreditation. In a survey which was completed by participants at the hearings, two of the most frequent responses given in the open-ended section of the survey included: "Establish student achievement in core academic subjects as the basis for accountability" and "Make all schools accountable to the same standards to eliminate disparities among them."[172]

Issue 9: School Choice

Introduction

School choice is defined as a family's option to send their children to the school of their choice – be it public, private, or parochial. This has *always* been an option for wealthy Americans, but the expense of such an option is largely out of reach for middle class and lower class families.

This need has been addressed by the movement to provide public-funded vouchers to such families in order to allow them this freedom of choice. Many parents and citizens support this option, as they say that their tax dollars should not be spent on a system which has neglected to meet the needs of their children. Many members of professional education organizations, as well as some citizens, oppose the concept of school choice, as they fear that such a plan would drain money from the public schools.

What Does the Research Tell Us?

A national poll conducted in 1996 for the Center for Educational Reform found strong public support for publicly-funded vouchers to allow poor families to send their children to the public, private, or parochial school of their choice.[173]

The poll found the following groups to be "somewhat or strongly" in favor of such a program:

- Parents with children in school 84%
- Citizens with no children in school 82%
- Whites 71%
- Blacks 90%
- Other ethnic groups 78%
- Democrats 77%
- Republicans 67%
- Independents 77%

Jeanne Allen, President of the Center for Education Reform, notes: "The results are dramatic, and challenge recent surveys which have purported to show public opposition to [such] reform."[174] Two other recent polls claimed different results. One, conducted by Gallup and Phi Delta Kappa, indicated only 36% of the respondents support publicly-funded vouchers.[175] The other, conducted by the National Education Association, indicated that only 30% of respondents favor such a plan.[176] The Center for Education Reform suggests, quite convincingly, that the wording used in these two surveys might have served to bias the results.[xiii]

A national poll conducted in 1996 for the Center for Educational Reform found strong public support for publicly-funded vouchers to allow poor families to send their children to the public, private, or parochial school of their choice.

Although these survey results indicate that many parents and members of the public have felt intuitively that school choice would result in higher student performance, the concept of opening up this option to non-wealthy families is relatively new, so longitudinal studies analyzing such programs have been hard to come by. But now there is empirical evidence to support the value of school choice as it relates to increases in student achievement.

Milwaukee was the site of the nation's first school choice program which provided low-income parents with publicly funded vouchers, allowing them the opportunity to send their children to private schools.

Findings from a recent analysis of academic performance data for these students indicate that Milwaukee's school choice program is far more successful than previously believed: "Attendance at a choice school for three or more years enhances academic performance, as measured by standardized math and reading test scores."[177] In fact, the researchers go on to call the increased student performance "substantially significant,"[178] and note that "choice students, when they remain in the choice experiment for three to four years, learn considerably more than those not selected."[179] It is further noted that "the performances of students in choice schools were decidedly superior to those of similarly-situated students in Milwaukee public schools."[180]

The average reading scores for choice students after three years in the program were 3 percentage points higher than comparable public school students, and 5 points higher after four years. Math scores were 5 points higher after three years and 12 points

[xiii] For an in-depth analysis, see A National Survey of Americans' Attitudes Toward Education and School Reform, The Center for Education Reform, Washington, D.C.; and Allen, J. (September 17, 1996). What Americans really think of school choice, The Wall Street Journal.

> "If similar success could be achieved for all minority students nationwide, it could close the gap separating white and minority test scores by somewhere between one-third and one-half."
>
> *Drs. J. Greene & P. Peterson*
> *University of Houston*
> *Dr. Jiangtao Du*
> *Harvard*

higher after four years.[181] The researchers further note that these "educational benefits accumulate and multiply with the passage of time."[182]

The significance of these findings should not be underestimated, as they indicate the potential for far-reaching educational and social consequences of choice programs. As the researchers note: "If similar success could be achieved for all minority students nationwide, it could close the gap separating white and minority test scores by somewhere between one-third and one-half."[183]

In concluding, the researchers state that:

> *"If even this limited choice program has the capacity to make such an extraordinary contribution to equal educational opportunity, more extensive choice plans deserve far more serious consideration than they have generally received."*[184]

Virginia's High Achieving Schools

As has been noted, most of Virginia's high achieving divisions are in small communities with small schools, where there is strong community support and active community involvement in the schools. This suggests a high degree of "ownership" by the community. Could it be that this sense of ownership is missing in larger divisions?

Nationally, the strongest voices for school choice are those in large, economically depressed urban areas. There were no such communities represented among the high achieving divisions in this study.

Recommendations

1. **In an effort to increase academic achievement among children in poor urban areas, serious consideration should be given to a pilot choice program in order to provide these families with the educational choices which their economic circumstances do not allow.**

Based upon the evidence of success elsewhere, Virginia should seriously consider implementing a pilot school choice program of its own.

An added benefit may be a better educational value. Dr. Richard Vedder, a nationally recognized expert in school productivity issues, states: "Guided by sound policy, a choice plan can serve the goals of [both] cost efficiency and educational quality."[185]

Issue 10: The Purpose of Public Education

Introduction

It is important for educators and the public in each school division, as well as in each state, to engage in meaningful dialogue concerning the purpose of public education. One cannot expect consensus on instructional and administrative issues if this most fundamental issue is left unresolved. It is critical for educators to know where their community stands on this issue so that they can either plan and work in accordance with the will of their community – or find a community which supports their beliefs.

It is important for educators and the public in each school division, as well as in each state, to engage in meaningful dialogue concerning the purpose of public education.

What Does the Research Tell Us?

A leader in the field of research ethics, writing about qualitative fieldwork, makes a statement which may be applicable in this context. She states that researchers may be acting unethically "if the host people are being used primarily as a means to gain the researcher's own revolutionary goals. Such fieldwork might be characterized as a kind of revolutionary 'neocolonialism,' in which researchers are convinced not only that they know more than their hosts about what will benefit the subjects, but also that it is worthwhile to risk the well-being of their hosts in order to chance the making of a revolution...*If the change is not desired by that group, then the effort is ethically questionable*"[186] (emphasis added).

Does the community want the schools to provide social services in addition to academic training? Or does the community want the schools to be primarily academic in nature? Decisions such as these must be made up front, in a forthright and deliberate manner, by parents, members of the community, and local school boards. Similar decisions must be made at the state level. In order for the will of the people to be known and to prevail, citizens and taxpayers must tell the Governor, members of the General Assembly, the State Board of Education, and their local school boards what it is they want their schools to accomplish. It is the proper role of citizens to advise policy makers, the proper role of policy makers to decide education policy, and the proper role of educators to implement such policies.

Open lines of communication are essential. As Public Agenda concluded in First Things First: What Americans Expect from Public Schools:

"What will not advance the cause of public education is to dismiss the public's views out-of-hand or attempt to manipulate people by paying lip service to their ideas. The public's concerns are fundamental. Many of the public's views – the focus on order and basics, the discomfort with teaching innovations – have been around for a while. And at their very core, these are people's very real concerns about the future of children they love. People are not likely to be persuaded just because leaders put a better spin on the same old messages.

"Public education in America is, in the most fundamental sense, a public issue. Schools will not change because leaders want them to. They will change when parents, students, and teachers go about their daily activities in different ways. That will only happen when the public is considered an equal and respected partner in reform – one whose views are worth listening to."[187]

Virginia's High Achieving Schools

Parents and community members in our high achieving divisions were not interviewed as a part of this research project. However, it is felt that this very fundamental issue needs to be addressed due to the volatile nature of education reform issues. Public Agenda points out that community support for public schools "disintegrates at the slightest probing," and that "public support even for local public schools is far more fragile than many educators would like to believe."[188]

> "Public education in America is, in the most fundamental sense, a public issue. Schools will not change because leaders want them to…That will only happen when the public is considered an equal and respected partner in reform – one whose views are worth listening to."
>
> *Public Agenda*

Recommendations

1. Initiate meaningful dialogue among parents, members of the community and education policy makers as to what they see as the purpose of public education.

Future research should include interviews with parents in all divisions on what they see as the fundamental purpose of education. This would facilitate a better understanding of parental and community concerns and desires on educational issues, and would help to focus local dialogue on defining and establishing the purpose of public education for each community.

This dialogue must be genuine, not staged or set up with preconceived notions in mind. And it must be inclusive so that all community members can have an equal chance to speak out.

2. Act upon the results.

Any attempt to elicit opinions which is not followed by action will be seen as a betrayal of the public trust. Once the public expresses its desires, educators must be willing to make modifications to accommodate the public's wishes.

> It is the proper role of citizens to advise policy makers, the proper role of policy makers to decide education policy, and the proper role of educators to implement such policies.

Educational initiatives have, for too long, originated from the top down. True bottom-up reform would start with parents, taxpayers, and community members – those who own the schools. Good educators need not feel threatened by this, because good educators do not have the attitude that "*We* know what is best for *your* children."

Future Research

Suggestions for future research include the following topics:

1. A more detailed and sophisticated statistical analysis using multiple measures would be helpful in augmenting the results of this study.
2. While controlling for other factors, the student performance in divisions which give standardized tests annually should be compared to the student performance in divisions which do not. This will help to determine if there is a correlation between annual standardized testing and increased student performance.
3. Consideration should be given to school by school comparisons, either within divisions or according to similar demographic characteristics.
4. Those divisions which showed statistically significant scores but which are still below the state average should be studied, along with those divisions which have now moved above the state average. What can the below average schools learn from those which are now more successful?
5. There appears to be a correlation between the educational level of the adults in a community as well as community income with high student achievement at the secondary level. Further study in this area would help to shed light on this observation.
6. There appears to be an inverse relationship between the relative wealth of a community and student achievement at the elementary level. More study is needed to analyze this relationship further.
7. Many high schools have switched to block scheduling of one form or another. It would be useful to study the longitudinal effects of this scheduling option as it affects student achievement.
8. A controlled study measuring the gains in student performance under the Reading Recovery program with the gains in student performance under the Language Acquisition program should take place.
9. How are the instructional programs of low achieving divisions and/or schools different from those which have attained high achievement?
10. Further study is needed on the efforts to balance computational skills with conceptual and problem-solving skills in math at the elementary level.
11. The relationship between school size and performance should be analyzed more thoroughly.
12. A pilot voucher program should be implemented and longitudinal data analyzed to determine the effects of such a choice model on student achievement.

Education Report Card:

Directions:

Included in this report are several appendices which contain useful information for parents, students, educators, and members of the community who might want to evaluate their own school divisions. This information provides a "snapshot" of a school division's performance.

Listed below are several categories of information. Turn to the appropriate appendices and enter the information for your division. This will help you to assess areas of strength and weakness in your own division, and to see if your educational investments have been used wisely so as to produce high academic achievement.

If you are pleased with your division's Report Card, let your school board and local educators and administrators know, and congratulate them for their hard work and dedication. If you have questions or concerns about your division's Report Card, you may wish to enter into a meaningful dialogue with members of the school board, local educators, and administrators about how areas of weakness can be addressed.

Education Report Card For Your School Division: Part I

_____

(Division name)

Demographic Information & Educational Investments

Demographic Information (See Appendix E.)

Demographic Variables	_____ (Division)	Virginia Average	How does your division compare?
Average daily membership		N/A	
Community income		$23,649	
Percentage of families in poverty		8%	
Percentage of students receiving free lunch		31%	

Educational Investments (See Appendix E.)

Educational Investment	_____ (Division)	Virginia Average 1994/95	How does your division compare?
Per-pupil expenditure		$5,310	

Education Report Card For Your School Division: Part II

_____
(Division name)

Educational Results

(See Appendices F, G, H, and I.)

Educational Variables	_____ (Division)	Virginia 1995/96 Average	How does your division compare?
ITBS Grade 4 Reading (1995/96)		56	
ITBS Grade 4 Reading (4 year gain score)		0	
ITBS Grade 4 Math (1995/96)		66	
ITBS Grade 4 Math (4 year gain score)		+3	
LPT Grade 6 Reading (1995/96)		83.3	
LPT Grade 6 Reading (4 year passing rate gain)		+1.7	
LPT Grade 6 Writing (1995/96)		79.5	
LPT Grade 6 Writing (4 year passing rate gain)		-1.3	
LPT Grade 6 Math (1995/96)		85.2	
LPT Grade 6 Math (4 year passing rate gain)		-1.4	
ITBS Grade 8 Reading (1995/96)		55	
ITBS Grade 8 Reading (4 year gain score)		-1	
ITBS Grade 8 Math (1995/96)		54	
ITBS Grade 8 Math (4 year gain score)		-2	
ITBS Grade 11 Reading (1995/96)		56	
ITBS Grade 11 Reading (4 year gain score)		-2	
ITBS Grade 11 Math (1995/96)		56	
ITBS Grade 11 Math (4 year gain score)		-1	
ITBS Grade 11 Science (1995/96)		66	
ITBS Grade 11 Science (4 year gain score)		+1	
ITBS Grade 11 Soc. Studies (1995/96)		57	
ITBS Grade 11 Soc. Studies (4 year gain score)		-3	
Percentage of college freshmen enrolled in remedial classes		26.06%	

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Methodology

Introduction

Both quantitative and qualitative research were used in compiling this report.

1. **Quantitative** research describes phenomenon through the use of numbers and measures instead of words. Examples of quantitative data include test scores, some types of surveys, demographic data, census data, and financial data.

2. **Qualitative** research describes phenomenon through the use of words instead of numbers or measures. Examples of quantitative data include open-ended interviews, some types of surveys, and written documents.

Quantitative Research:

Those districts earning the rating of "High Achieving" fall into one of two categories: Top Performers and Rising Stars. Those divisions which have consistently performed well over the past four years were designated as "Top Performers." Those divisions which demonstrated remarkable improvement over the past four years were designated as "Rising Stars." For the purposes of this study, both sets of divisions are considered "High Achievers."

Elementary School

Skills learned in the elementary grades form the foundation upon which all else follows. Most important to that foundation are solid skills in reading, followed by math. Because of their critical importance as the cornerstones of all future educational endeavors, these are the two content areas analyzed for this part of the study.

The Top Performers

Fourth grade scores on the Iowa Test of Basic Skill (ITBS) for the past four years (1992/93-1995/96) were categorized for each division by content area, and then averaged and ranked. The scores of those divisions which placed in the top five were then analyzed to determine whether they had experienced a decline in scores over the past four years exceeding five points. Those divisions which ranked in the top five and which did not experience a decline of more than five points over the past four years were designated as "Top Performers." This quantitative analysis was performed for both reading and math.

The Rising Stars

Fourth grade scores on the Iowa Test of Basic Skill (ITBS) for the past four years (1993/94-1995/96) were categorized for each division by content area, and then gain scores were computed for each division. The divisions were ranked, and t-tests[xiv] were conducted on the top ten to determine those divisions which demonstrated a statistically significant gain over the past four years at the $p<.01$ level. The scores from those divisions showing a statistically significant increase were then analyzed to determine if their 1996 scores were at or above the 1996 state average in each content area. Those divisions with statistically significant gain scores and whose 1996 scores were at or above the state average in the appropriate content area were designated as "Rising Stars." This quantitative analysis was performed for both reading and math.

Transition from Elementary to Middle School

Divisions were selected for this category on the basis of their scores on the Literacy Passport Test, a test which is given statewide to all sixth grade students. A passing rate on this test is required for graduation from high school in the Commonwealth of Virginia.

Although there are exceptions, most elementary schools in Virginia end with fifth grade, and middle schools begin with sixth grade. The sixth grade Literacy Passport Test, then, can be viewed as a measure of the strength of that foundation which was laid in the elementary years. Success on the Literacy Passport Test demonstrates that students have a strong enough foundation for the new and more challenging work awaiting them in the coming years.

[xiv] A t-test is a statistical formula which helps to determine whether a change in scores is statistically significant. Changes in scores can be due to many factors, including chance. Only when a score is determined to be statistically significant can it be assumed that a factor *other* than chance played a role in the change. The formula for running these t-tests used the following variables:

n_1 =	number of students taking the first test	n_2 =	number of students taking the second test
$\bar{x}_1$ =	average (mean) for the first test	$\bar{x}_2$ =	average (mean) for the second test
s_1 =	standard deviation of the first test	s_2 =	standard deviation of the second test
$s_{\bar{x}_1}$ =	standard error of first test	$s_{\bar{x}_2}$ =	standard error of second test

r_{12} = the correlation between tests one and two
(Correlations between the 1993 and 1996 tests were unavailable, so the reliability correlation coefficients used are the adjusted estimates of equivalent-forms reliability coefficients of Forms G and H. See 1996 Manual for School Administrators, ITBS, Forms G/H, p. 91.)

The formula used was:

$$t = \frac{\bar{x}_2 - \bar{x}_1}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} - 2r_{12}s_{\bar{x}_1}s_{\bar{x}_2}}}$$

The Top Performer

The passing rates for each of the three content areas tested (reading, writing, and math) were averaged for the past four years (1992/93-1995/96) for each division, and all divisions in each of these three categories were ranked according to these scores. Only one division, Patrick County, placed among the top five divisions in each of the three content areas tested, so it alone qualified as a Top Performer.

The Rising Star

The gain scores in the passing rates for each of the three content areas were computed for the past four years (1992/93-1995/96) for each division, and all divisions in each of these three categories were ranked according to their gain scores. Only one division, King and Queen County, placed among the top five divisions in each of the three content areas tested, so it alone qualified as a Rising Star.

Middle School

During middle school, students go through an amazing array of changes: physical, emotional, social, and intellectual. It is a time of growth and transition. The foundation formed in elementary school, which focused most closely on reading and math, forms the basis for an expanding framework of knowledge at the middle school level.

The Top Performers

The eighth grade Iowa Test of Basic Skill scores in two content areas (reading and math) were averaged for the past four years (1992/93-1995/96) for each division, and all divisions were ranked. The scores of those divisions which placed in the top ten were then analyzed to determine whether they had experienced a decline in scores over the past four years exceeding five points. Those divisions which placed in the top ten in both content areas and did not experience a decline of more than five points over the past four years were designated as "Top Performers."

The Rising Stars

Eighth grade scores on the Iowa Test of Basic Skill (ITBS) for the past four years (1993/94-1995/96) were categorized for each division by reading and math, and then gain scores were computed for each division. The divisions were ranked, and t-tests were conducted on the top ten to determine those divisions which demonstrated a statistically significant gain over the past four years at the $p<.01$ level. The scores from those divisions showing a statistically significant increase were then analyzed to determine if their 1996 scores were at or above the 1996 state average in each content area. Those divisions with statistically significant gain scores and whose 1996 scores were at or above the state average in both reading and math were designated as "Rising Stars."

High School

The acquisition and integration of knowledge accelerates and intensifies at the high school level, and students begin to clarify the vision of where they see their future paths leading.

The Top Performers

The Iowa Test of Basic Skill scores in four content areas (reading, math, history, and science) were averaged for the past four years (1992/93-1995/96) at grade eleven for each division, and all divisions were ranked. The scores of those divisions which placed in the top ten in each content area were then analyzed to determine whether they had experienced a decline in scores over the past four years exceeding five points. Those divisions which placed in the top ten in all content areas and did not experience a decline of more than five points over the past four years were designated as "Top Performers."

The Rising Stars

Eleventh grade scores on the Iowa Test of Basic Skill (ITBS) for the past four years (1993/94-1995/96) were categorized for each division by four content areas (reading, math, science, and social studies), and then gain scores were computed for each division. The divisions were ranked, and t-tests were conducted on the top ten to determine those divisions which demonstrated a statistically significant gain over the past four years at the $p<.01$ level. The scores from those divisions showing a statistically significant increase were then analyzed to determine if their 1996 scores were at or above the 1996 state average in each content area. That division with statistically significant gain scores and whose 1996 scores were at or above the state average in all four content areas was designated as the "Rising Star."

Qualitative Research

Once both categories of high achieving divisions were determined, qualitative research protocols based upon the methodology suggested by Lincoln and Guba (1985) and Patton (1990) were established.[189] In order to maintain reliability and validity, a number of practices were employed. Data was triangulated through the use of multiple data sources (testing, demographic, financial, personnel, and instructional data) and multiple methods (analyses of records and interviews). Member checking (e.g., discussion of findings with participants) was performed and an extensive audit trail (of both quantitative and qualitative data) was maintained.

The interviews conducted with key personnel in each division contained survey questions as well as the opportunity for open-ended responses. The appropriate respondents depended upon the size of the divisions: in smaller divisions the person responsible for specific content areas was often the superintendent or a principal, while in larger divisions that role fell to an array of curriculum specialists.

Analyses of this data resulted in a number of emergent categories which revealed an array of similar educational practices.

Appendix A

Data on high achieving divisions at the elementary level.

Table A.1

Community Demographic Overview
High Achieving Divisions (Elementary)

School Division	Top Performer	Rising Star	Geographic Region	Urban, Rural or Suburban	Percentage of Minority Representation[xv]	Average Daily Membership	Educational Level of the Community[xvi]
Bath		R,M	Southwest	Rural	4.5%	877	67
Craig		R,M	Southwest	Rural	.3%	702	68
Falls Church	R,M	M	No. VA	Urban	14.0%	1,348	91
New Kent		R	Tidewater	Rural	21.2%	2,056	73
Norton		M	Southwest	Urban	10.1%	822	54
Patrick		R,M	Southwest	Rural	11.4%	2,589	54
Poquoson	R,M		Peninsula	Urban	1.4%	2,452	84
Radford	R,M		Southwest	Urban	12.4%	1,495	75
Salem	R,M		Southwest	Urban	6.2%	3,752	76
West Point	R,M		Tidewater	Town	16.1%	719	*
State Average					**29.9%**	**N/A**	**75**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.
(Note: **R** = Reading, **M** = Math.)

Table A.2

Community Financial Overview
High Achieving Divisions (Elementary)

School Division	Top Performer	Rising Star	Community Income[xvii]	Percentage of Families in Poverty[xviii]	Percentage of Students Receiving Free Lunch[xix]	Per-Pupil Expenditure
Bath		R,M	$18,196	13%	30%	$7,540
Craig		R,M	$20,276	8%	33%	$4,484
Falls Church	R,M	M	$30,666	4%	13%	$8,863
New Kent		R	$28,341	4%	19%	$4,945
Norton		M	$18,146	25%	39%	$5,022
Patrick		R,M	$18,643	11%	29%	$4,566
Poquoson	R,M		$29,960	2%	5%	$4,261
Radford	R,M		$17,892	10%	20%	$5,066
Salem	R,M		$21,157	3%	17%	$5,200
West Point	R,M		*	*	15%	$5,959
State Average			**$23,649**	**8%**	**31%**	**$5,310**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted. (Note: **R** = Reading, **M** = Math.)
*Unavailable

[xv] American Indian, Black, and Hispanic.
[xvi] Percent of adults who are high school graduates, according to the 1990 census.
[xvii] Median adjusted gross income (1993) as reported by the Virginia Department of Taxation (OAP).
[xviii] Percentage of families below the federal poverty level as reported by the 1990 census (OAP).
[xix] Percentage of students with approved applications for free or reduced lunch (1994-5) as reported by the School Food Service, Virginia Department of Education (OAP).

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Table A.3

Expenditures as a Percentage of the Total Education Budget[xx] High Achieving Divisions (Elementary)								
School Division	Top Performer	Rising Star	Administration	Instruction	Attendance & Health	Pupil Transportation	Operations & Maintenance	Other [xxi]
Bath		R,M	3.08	62.28	.86	7.28	9.65	14.85
Craig		R,M	3.66	71.77	.19	5.84	8.11	10.42
Falls Church	R,M	M	5.61	49.86	1.81	1.83	8.04	32.86
New Kent		R	2.97	65.19	3.30	7.77	10.00	10.75
Norton		M	4.35	73.14	1.09	2.60	12.45	.64
Patrick		R,M	2.15	2.27	.54	8.01	8.04	8.97
Poquoson	R,M		5.90	77.66	1.64	3.62	9.15	2.03
Radford	R,M		3.10	73.13	2.28	.51	10.71	10.27
Salem	R,M		2.16	72.26	1.06	2.73	8.36	13.43
West Point	R,M		4.04	74.58	.88	3.94	11.87	5.12
State Average			**2.60**	**65.03**	**1.19**	**4.17**	**9.06**	**17.95**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.
(Note: **R** = Reading, **M** = Math.)

Table A.4

Instructional Personnel Data High Achieving Divisions (Elementary)						
School Division	Top Performer	Rising Star	Pupil/Teacher ratio (Grade 1)	Pupil/Teacher Ratio (K-7)	Teacher Aides per 1000 students (K-12)	Instructional Personnel per 1000 students (K-12)
Bath		R,M	17.2	11.2	0	94.5
Craig		R,M	19.0	13.7	9.2	79.5
Falls Church	R,M	M	16.7	17.0	24.1	91.5
New Kent		R	17.1	13.3	20.1	70.7
Norton		M	15.3	15.5	18.5	70.9
Patrick		R,M	15.2	14.5	12.15	73.6
Poquoson	R,M		19.3	16.7	7.1	66.6
Radford	R,M		19.6	14.4	12.1	76.7
Salem	R,M		16.3	18.0	13.86	73.1
West Point	R,M		11.3	12.6	1.4	94.6
State Average			**17.6**	**14.4**	**11.1**	**72.3**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.
(Note: **R** = Reading, **M** = Math.)

[xx] Totals may not equal 100% due to rounding.
[xxi] The category "other" includes school food services, adult education, summer school, other educational programming, facilities, and debt service and transfer.

Table A.5

Support Personnel Per 1000 Students* High Achieving Divisions (Elementary)							
School Division	Top Performer	Rising Star	Attendance and Health	Clerical and Technical	Facilities	Operations and Maintenance	Pupil Transportation
Bath		R,M	.4	31.5	0	11.4	17.8
Craig		R,M	0	5.0	0	5.5	9.0
Falls Church	R,M	M	4.1	32.0	0	18.1	5.4
New Kent		R	3.9	17.6	.49	3.7	27.4
Norton		M	.8	23.2	0	0	0
Patrick		R,M	.7	8.8	0	10.2	24.3
Poquoson	R,M		6.0	19.8	0	17.0	21.1
Radford	R,M		3.5	13.0	0	13.0	1.1
Salem	R,M		1.0	5.9	0	8.3	7.2
West Point	R,M		1.5	11.0	0	10.0	6.0

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted. (Note: **R** = Reading, **M** = Math.)
* Note: The actual numbers are presented for Bath, Craig, Norton, and West Point, all of which have fewer than 1000 students.

Table A.6

Administrative Positions per 1000 Students* High Achieving Divisions (Elementary)					
School Division	Top Performer	Rising Star	Superintendent and Assistant Superintendent Positions	Elementary Principal & Assistant Principal Positions	Other Professional Administrative Positions
Bath		R,M	1.0	2.0	2.6
Craig		R,M	1.0	1.0	1.0
Falls Church	R,M	M	1.1	1.5	2.3
New Kent		R	1.0	1.0	1.0
Norton		M	1.0	1.5	0
Patrick		R,M	.4	1.4	1.3
Poquoson	R,M		.8	2.3	0
Radford	R,M		.7	1.7	2.0
Salem	R,M		.5	1.1	.3
West Point	R,M		1.0	2.0	2.0

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted. (**R** = Reading, **M** = Math.)
* Note: The actual numbers are presented for Bath, Craig, Norton, and West Point, all of which have fewer than 1000 students.

Table A.7

Instructional Time Data: High Achieving Divisions (Elementary)

School Division	Top Performer	Rising Star	Total Number of Days Taught	Percentage of Elementary Attendance	Attendance: Percentage of Students Absent Ten Days or Less (K-5)	Daily Time Required in Reading (minutes) [xxxi]	Daily Tin Required Math (minutes) [xxxii]
Bath		R,M	180	95	73	120	60
Craig		R,M	180	95	69	180	60
Falls Church	R,M	M	180	96	78	120	50-60**
New Kent		R	180	96	76	210/120*	N/A
Norton		M	180	95	70	N/A	70
Patrick		R,M	180	95	72	70	50
Poquoson	R,M		180	96	84	120	45
Radford	R,M		176	96	77	120	60
Salem	R,M		180	96	81	120	45-60
West Point	R,M		180	97	89	150	60-90
State Average			**N/A**	**95**	**77**	**N/A**	**N/A**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1995 Superintendent's Annual Report for Virginia, unless otherwise noted. (Note: **R** = Reading, **M** = Math.)

* Students in grades K-2 spend 210 minutes on reading daily, and students in grades 3-5 spend 120 minutes on reading daily.

**Students also spend one hour doing math work on the computer daily.

[xxxi] This information was provided by those individuals from each division who were interviewed for this study.

[xxxii] This information was provided by those individuals from each division who were interviewed for this study.

Appendix B

Data of high achieving divisions on the Literacy Passport Test.

Source for all tables: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

Table B.1

Community Demographic Overview
High Achieving Divisions (Literacy Passport Test)

School Division	Top Performer	Rising Star	Geographic Region	Urban, Rural or Suburban	Percentage of Minority Representation[xxiv]	Average Daily Membership	Educational Level of the Community [xxv]
King & Queen		X	Tidewater	Rural	61.2%	889	58%
Patrick	X		Southwest	Rural	11.4%	2,584	54%
State Average					**29.9%**	**N/A**	**75%**

Table B.2

Community Financial Overview
High Achieving Divisions (Literacy Passport Test)

School Division	Top Performer	Rising Star	Community Income[xxvi]	Percentage of Families in Poverty[xxvii]	Percentage of Students Receiving Free Lunch[xxviii]	Per-Pupil Expenditure
King & Queen		X	$18,813	11%	67%	$6,107
Patrick	X		$18,643	11%	29%	$4,566
State Average			**$23,649**	**8%**	**31%**	**$5,310**

Table B.3

Expenditures as a Percentage of the Total Education Budget[xxix]
High Achieving Divisions (Literacy Passport Test)

School Division	Top Performer	Rising Star	Administration	Instruction	Attendance & Health	Pupil Transportation	Operations & Maintenance	Other [xxx]
King & Queen		X	3.34	50.83	.63	6.36	7.02	31.8
Patrick	X		2.15	72.27	.54	8.01	8.04	8.97
State Average				**65.03**	**1.19**	**4.17**	**9.06**	**17.95**

[xxv] American Indian, Black, and Hispanic.

[xxvi] Percent of adults who have a high school diploma, according to the 1990 census.

[xxvii] Median adjusted gross income (1993) as reported by the Virginia Department of Taxation (OAP).

[xxviii] Percentage of families below the federal poverty level as reported by the 1990 census (OAP).

[xxix] Percentage of students with approved applications for free or reduced lunch (1994-5) as reported by the School Food Service, Virginia Department of Education (OAP).

[xxx] Totals may not equal 100% due to rounding.

[xxx] The category "other" includes school food services, adult education, summer school, other educational programming, facilities, and debt service and transfer.

Table B.4

Instructional Personnel Data High Achieving Divisions (Literacy Passport Test)					
School Division	Top Performer	Rising Star	Pupil/Teacher Ratio (K-7)	Teacher Aides per 1000 students (K-12)	Instructional Personnel per 1000 students (K-12)
King & Queen		X	11.7	11.8	85.0
Patrick	X		14.5	12.2	73.6
State Average			**14.4**	**11.1**	**72.3**

Table B.5

Support Personnel Per 1000 Students* High Achieving Divisions (Literacy Passport Test)							
School Division	Top Performer	Rising Star	Attendance and Health	Clerical and Technical	Facilities	Operations and Maintenance	Pupil Transportation
King & Queen		X	.60	8.62	.5	11.85	31.50
Patrick	X		.66	8.80	0	10.22	24.27

*Note: The actual numbers are given for King & Queen, which has fewer than 1000 students.

Table B.6

Administrative Positions per 1000 Students* High Achieving Divisions (Literacy Passport Test)					
School Division	Top Performer	Rising Star	Superintendent and Assistant Superintendent Positions	Elementary Principal & Assistant Principal Positions	Other Professional Administrative Positions
King & Queen		X	1.0	2.0	1.8
Patrick	X		.4	1.4	1.3

*Note: The actual numbers are given for King & Queen, which has less than 1000 students.

Table B.7

Instructional Time Data High Achieving Divisions (Literacy Passport Test)						
School Division	Top Performer	Rising Star	Total Number of Days Taught	Percentage of Elementary Attendance	Attendance: Percentage of Students Absent Ten Days or Less (K-5)	Attendance: Percentage of Students Absent Ten Days or Less (6-8)
King & Queen		X	180	92	83	83
Patrick	X		180	95	72	67
State Average			**N/A**	**95**	**77**	**70**

*It should be noted that the percentage of students absent for ten days or less in 1995 in Craig County (59%) is an anomaly. The average percentage for this division from 1991-1994 is 73%.

+ Students in grades K-2 spend 210 minutes on reading daily, and students in grades 3-5 spend 120 minutes on reading daily.

Appendix C

Data of high achieving divisions at the Middle School level.

Table C.1

Community Demographic Overview High Achieving Divisions (Middle School)							
School Division	**Top Performer**	**Rising Star**	**Geographic Region**	**Urban, Rural or Suburban**	**Percentage of Minority Representation**[xxxi]	**Average Daily Membership**	**Educational Level in the Community**[xxxii]
Arlington	X		No. VA	Urban	47.8%	16,645	88
Falls Church	X		No. VA	Urban	14.0%	1,348	91
Loudoun	X		No. VA	Suburban	12.3%	18,256	87
New Kent		X	Tidewater	Rural	21.2%	2,056	73
Poquoson	X		Peninsula	Urban	1.4%	2,452	84
Radford	X		Southwest	Urban	12.4%	1,495	75
West Point	X		Tidewater	Town	16.1%	719	*
State Average					**29.9%**	**N/A**	**75**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

Table C.2

Community Financial Overview High Achieving Divisions (Middle School)						
School Division	**Top Performer**	**Rising Star**	**Community Income**[xxxiii]	**Percentage of Families in Poverty**[xxxiv]	**Percentage of Students Receiving Free Lunch**[xxxv]	**Per-Pupil Expenditure**
Arlington	X		$28,766	4%	38%	$8,631
Falls Church	X		$30,666	4%	13%	$8,863
Loudoun	X		$38,115	2%	10%	$5,657
New Kent		X	$28,341	4%	19%	$4,945
Poquoson	X		$29,960	2%	5%	$4,261
Radford	X		$17,892	10%	20%	$5,066
West Point	X		*	*	15%	$5,959
State Average			**$23,649**	**8%**	**31%**	**$5,310**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

*Unavailable

[xxxi] American Indian, Black, and Hispanic.

[xxxii] Percentage of adults with a high school diploma, as reported by the 1990 census.

[xxxiii] Median adjusted gross income (1993) as reported by the Virginia Department of Taxation (OAP).

[xxxiv] Percentage of families below the federal poverty level as reported by the 1990 census (OAP).

[xxxv] Percentage of students with approved applications for free or reduced lunch (1994-5) as reported by the School Food Service, Virginia Department of Education (OAP).

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Table C.3

Expenditures as a Percentage of the Total Education Budget[xxxvi] High Achieving Divisions (Middle School)								
School Division	Top Performer	Rising Star	Administration	Instruction	Attendance & Health	Pupil Transportation	Operations and Maintenance	Other [xxxvii]
Arlington	X		4.17	59.08	.65	2.00	9.48	24.61
Falls Church	X		5.61	49.86	1.81	1.83	8.04	32.86
Loudoun	X		1.74	57.86	.10	4.38	7.44	22.84
New Kent		X	2.97	65.19	3.30	7.77	10.00	10.75
Poquoson	X		5.90	77.66	1.64	3.62	9.15	2.03
Radford	X		3.10	73.13	2.28	.51	10.71	10.27
West Point	X		4.04	74.58	.88	3.94	11.87	5.12
State Average			**2.60**	**65.03**	**1.19**	**4.17**	**9.06**	**17.95**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted

Table C.4

Instructional Personnel Data* High Achieving Divisions (Middle School)				
School Division	Top Performer	Rising Star	Teacher Aides per 1000 students (K-12)	Instructional Personnel per 1000 students (K-12)
Arlington	X		.1	93.7
Falls Church	X		24.1	91.5
Loudoun	X		8.18	71.3
New Kent		X	20.1	70.7
Poquoson	X		7.1	66.6
Radford	X		12.1	76.7
West Point	X		1.0	94.6
State Average			**11.1**	**72.3**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

* Note: The actual number is given for West Point, which has fewer than 1000 students.

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[xxxvi] Totals may not equal 100% due to rounding.

[xxxvii] The category "other" includes school food services, adult education, summer school, other educational programming, facilities, and debt service and transfer.

Table C.5

Support Personnel Per 1000 Students* High Achieving Divisions (Middle School)							
School Division	Top Performer	Rising Star	Attendance and Health	Clerical and Technical	Facilities	Operations and Maintenance	Pupil Transportation
Arlington	X		1.0	15.1	0	16.5	5.7
Falls Church	X		4.1	32.0	0	18.1	5.4
Loudoun	X		1.5	12.4	.37	10.3	10.3
New Kent		X	3.9	17.6	.49	3.7	27.4
Poquoson	X		6.0	19.8	0	17.0	21.1
Radford	X		3.5	13.0	0	13.0	1.1
West Point	X		1.5	11.0	0	10.0	6.0

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.
Note: The actual numbers are given for West Point, which has fewer than 1000 students.

Table C.6

Administrative Positions per 1000 Students* High Achieving Divisions (Middle School)				
School Division	Top Performer	Rising Star	Superintendent and Assistant Superintendent Positions	Elementary Principal & Assistant Principal Positions
Arlington	X		1.2	1.24
Falls Church	X		1.1	2.74
Loudoun	X		.05	1.94
New Kent		X	1.0	1.94
Poquoson	X		.8	1.50
Radford	X		.7	1.67
West Point	X		1.0	1.00

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.
* Note: The actual numbers are given for West Point, which has fewer than 1000 students.

Table C.7

Instructional Time Data High Achieving Divisions (Middle School)					
School Division	Top Performer	Rising Star	Total Number of Days Taught	Percentage of Secondary Attendance	Attendance:Percentage of Students Absent Ten Days or Less (6-8)
Arlington	X		182	93	74
Falls Church	X		177	96	79
Loudoun	X		183	93	78
New Kent		X	180	94	80
Poquoson	X		180	95	81
Radford	X		176	94	74
West Point	X		180	96	90
State Average			**N/A**	**93**	**70**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

Appendix D

Data of high achieving divisions at the High School level.

Table D.1

Community Demographic Overview High Achieving Divisions (High School)							
School Division	Top Performer	Rising Star	Geographic Region	Urban, Rural or Suburban	Percentage of Minority Representation [xxxviii]	Average Daily Membership	Educational Level of the Community [xxxix]
Bland		X	Southwest	Rural	1.1%	1,033	63
Fairfax	X		No. VA	Suburban	20.8%	135,422	91
Falls Church	X		No. VA	Urban	14.0%	1,348	91
Highland		X	West	Rural	.5%	388	62
Poquoson	X		Peninsula	Urban	1.4%	2,452	84
Radford	X		Southwest	Urban	12.4%	1,495	75
West Point	X	X	Tidewater	Town	16.1%	719	*
York	X		Tidewater	Rural	19.4%	10,692	88
State Average					**29.9%**	**N/A**	**75**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

* Unavailable

Table D.2

Community Financial Overview High Achieving Divisions (High School)						
School Division	Top Performer	Rising Star	Community Income [xl]	Percentage of Families in Poverty [xli]	Percentage of Students Receiving Free Lunch [xlii]	Per-Pupil Expenditure
Bland		X	$19,926	7%	29%	$5,543
Fairfax	X		$35,981	2%	17%	$6,642
Falls Church	X		$30,666	4%	13%	$8,863
Highland		X	$17,854	11%	31%	$5,782
Poquoson	X		$29,960	2%	5%	$4,261
Radford	X		$17,892	10%	20%	$5,066
West Point	X	X	*	*	15%	$5,959
York	X		$27,051	4%	15%	$4,456
State Average			**$23,649**	**8%**	**31%**	**$5,310**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

*Unavailable

[xxxviii] American Indian, Black, and Hispanic.

[xxxix] Percentage of adults who are high school graduates, according to the 1990 census.

[xl] Median adjusted gross income (1993) as reported by the Virginia Department of Taxation (OAP).

[xli] Percentage of families below the federal poverty level as reported by the 1990 census (OAP).

[xlii] Percentage of students with approved applications for free or reduced lunch (1994-5) as reported by the School Food Service, Virginia Department of Education (OAP).

Table D.3

Expenditures as a Percentage of the Total Education Budget[xliii] High Achieving Divisions (High School)								
School Division	Top Performer	Rising Star	Administration	Instruction	Attendance & Health	Pupil Transportation	Operations and Maintenance	Other[xliv]
Bland		X	4.58	68.98	1.55	9.69	10.19	5.01
Fairfax	X		2.89	64.34	1.21	3.73	9.64	18.19
Falls Church	X		5.61	49.86	1.81	1.83	8.04	32.86
Highland		X	4.49	71.76	.46	8.21	10.16	4.90
Poquoson	X		5.90	77.66	1.64	3.62	9.15	2.03
Radford	X		3.10	73.13	2.28	.51	10.71	10.27
West Point		X	4.04	74.58	.88	3.94	11.87	5.12
York	X		1.57	56.18	1.19	3.18	10.12	27.76
State Average			**2.60**	**65.03**	**1.19**	**4.17**	**9.06**	**17.95**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

Table D.4

Instructional Personnel Data High Achieving Divisions (High School)				
School Division	Top Performer	Rising Star	Teacher Aides per 1000 students* (K-12)	Instructional Personnel per 1000 students (K-12)
Bland		X	13.5	79.9
Fairfax	X		10.5	75.1
Falls Church	X		24.1	91.5
Highland		X	0	107.0
Poquoson	X		7.1	66.6
Radford	X		12.1	76.7
West Point	X	X	1.0	94.6
York	X		11.4	65.0
State Average			**11.1**	**72.3**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted

* Note: The actual numbers are given for Highland and West Point, both of which have fewer than 1000 students.

[xliii] Totals may not equal 100% due to rounding.

[xliv] The category "other" includes school food services, adult education, summer school, other educational programming, facilities, and debt service and transfer.

Table D.5

Support Personnel Per 1000 Students* High Achieving Divisions (High School)							
School Division	Top Performer	Rising Star	Attendance and Health	Clerical and Technical	Facilities	Operations and Maintenance	Pupil Transportation
Bland			2.4	7.3	0	10.65	22.27
Fairfax			1.2	14.3	.34	12.93	9.99
Falls Church			4.1	32.0	0	18.1	5.4
Highland			0	12.0	0	2.0	9.0
Poquoson			6.0	19.8	0	17.0	21.1
Radford			3.5	13.0	0	13.0	1.1
West Point			1.5	11.0	0	10.0	6.0
York			1.7	8.67	.09	8.76	8.42

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.
Note: the actual numbers are given for Highland and West Point, both of which have fewer than 1000 students.

Table D.6

Administrative Positions per 1000 Students* High Achieving Divisions (High School)			
School Division	Top Performer	Rising Star	Secondary Principal & Assistant Principal Positions
Bland		X	1.9
Fairfax	X		1.2
Falls Church	X		1.5
Highland		X	1.0
Poquoson	X		2.3
Radford	X		1.7
West Point	X	X	1.0
York	X		1.1

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted. * Note: the actual numbers are given for Highland and West Point, both of which have fewer than 1000 students.

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Table D.7

Instructional Time Data High Achieving Divisions (High School)					
School Division	**Top Performer**	**Rising Star**	**Total Number of Days Taught**	**Percentage of Secondary Attendance**	**Attendance: Percentage of Students Absent Ten Days or Less (9-12)**
Bland		X	180	95	74
Fairfax	X		182	94	73
Falls Church	X		177	96	81
Highland		X	180	95	72
Poquoson	X		180	95	67
Radford	X		176	94	69
West Point		X	180	96	83
York	X		180	96	81
State Average				**95**	**64**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

Table D.8

Student Diploma, Graduation, and Dropout Data for the High Achieving Divisions					
School Division	**Top Performer**	**Rising Star**	**Percent Earning Advanced Diplomas**	**Percent Graduated[xlv]**	**Percentage of Dropouts**
Bland		X	31	92.6	1.36
Fairfax	X		67	90.2	2.31
Falls Church	X		71	102.4	.48
Highland		X	43	80.8	2.91
Poquoson	X		51	93.9	1.83
Radford	X		41	66.9	1.88
West Point	X	X	76	90.0	0
York	X		54	84.3	1.45
State Average			**47**	**73.6**	**3.66**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

[xlv] Graduates are defined as a percent of ninth grade membership four years earlier (no adjustments have been made to reflect the mobility of the population)

Table D.9

Continuing Education Choices for Graduates of the High Achieving Divisions						
School Division	Top Performer	Rising Star	Two-year Colleges (Percent)	Four-year Colleges (Percent)	Other Continuing Education (Percent)	Total Continuing Education (Percent)
Bland		X	27.6	35.6	13.8	77.0
Fairfax	X		13.8	71.1	6.2	91.1
Falls Church	X		25.0	70.2	0	95.2
Highland		X	33.3	33.3	9.5	76.2
Poquoson	X		19.5	57.3	9.7	86.5
Radford	X		35.3	48.2	4.7	88.2
West Point	X	X	31.5	55.6	9.3	96.3
York	X		20.6	61.6	4.4	86.6
State Average			**24.5**	**47.5**	**8.7**	**80.7**

Source: Virginia Department of Education's 1996 Virginia Summary Report: Outcome Accountability Project or the 1994-1995 Superintendent's Annual Report for Virginia, unless otherwise noted.

Appendix E

Data of demographic information and educational investments for all Virginia school divisions.

Virginia Education Inputs: Demographic and financial information

	School Division	Average Daily Membership	Per-Pupil Expenditure	Community Income	Percentage of Families In Poverty	Percentage of Children Receiving Free Lunch	Pupil/ Teacher Ratio (K-7)
1	Accomack	5,367	$4,909	$13,852	15%	58%	12.60
2	Albemarle	10,743	$5,761	$26,328	5%	18%	14.10
3	Alexandria	9,655	$8,431	$29,365	5%	51%	14.70
4	Alleghany Highlands	3,077	$5,494	$22,396	8%	32%	12.70
5	Amelia	1,684	$4,701	$19,214	8%	39%	13.50
6	Amherst	4,601	$4,238	$20,016	8%	24%	16.60
7	Appomatox	2,306	$4,236	$18,144	10%	32%	15.00
8	Arlington	16,665	$8,631	$28,766	4%	38%	11.20
9	Augusta	10,417	$4,765	$22,882	5%	19%	13.90
10	Bath	880	$7,540	$18,196	13%	30%	11.20
11	Bedford	9,558	$4,140	$23,932	6%	24%	19.10
12	Bland	1,036	$5,543	$19,926	7%	29%	13.70
13	Botetourt	4,329	$4,554	$24,206	5%	13%	15.20
14	Bristol	2,511	$5,541	$18,526	17%	41%	11.20
15	Brunswick	2,556	$5,007	$15,686	18%	69%	15.50
16	Buchanan	5,396	$4,961	$19,070	19%	57%	11.00
17	Buckingham	2,148	$4,822	$16,789	15%	50%	13.50
18	Buena Vista	1,075	$4,942	$17,117	11%	33%	14.10
19	Campbell	8,242	$4,281	$20,547	8%	26%	16.90
20	Caroline	3,577	$4,808	$20,669	9%	35%	14.70
21	Carroll	3,913	$4,757	$17,489	11%	36%	13.00
22	Charles City	1,067	$6,212	$20,698	13%	43%	11.00
23	Charlotte	2,122	$4,813	$16,003	17%	49%	14.10
24	Charlottesville	4,454	$7,891	$18,290	10%	50%	12.30
25	Chesapeake	34,019	$4,798	$25,399	7%	26%	16.20
26	Chesterfield	47,979	$4,478	$31,804	3%	14%	15.40
27	Clarke	1,756	$5,384	$22,738	75	18%	14.60
28	Colonial Beach	610	$4,859	*	*	32%	14.60
29	Colonial Heights	2,678	$5,635	$22,543	4%	16%	16.50
30	Covington	965	$6,213	$18,160	10%	35%	12.50
31	Craig	706	$4,484	$20,276	8%	33%	13.70
32	Culpeper	5,034	$5,216	$22,556	7%	37%	13.50

	School Division	Average Daily Membership	Per-Pupil Expenditure	Community Income	Percentage of Families in Poverty	Percentage of Children Receiving Free Lunch	Pupil/ Teacher Ratio (K-7)
33	Cumberland	1,125	$5,012	$16,896	12%	68%	11.10
34	Danville	8,170	$4,729	$16,432	15%	46%	14.20
35	Dickenson	3,284	$5,145	$17,350	22%	57%	11.30
36	Dinwiddie	3,765	$4,503	$20,373	9%	35%	13.60
37	Essex	1,556	$4,985	$17,614	10%	44%	13.90
38	Fairfax	136,959	$6,642	$35,981	2%	17%	13.20
39	Falls Church	1,351	$8,863	$30,666	4%	13%	17.00
40	Fauquier	8,660	$5,757	$29,360	3%	20%	12.00
41	Floyd	1,852	$4,767	$19,275	13%	27%	13.10
42	Fluvanna	2,457	$4,952	$23,921	7%	22%	16.90
43	Franklin City	1,747	$5,095	$18,298	17%	49%	13.60
44	Franklin County	6,593	$4,433	$19,224	8%	30%	15.10
45	Frederick	9,173	$4,825	$23,978	5%	16%	14.60
46	Fredericksburg	2,149	$6,101	$19,634	8%	47%	12.60
47	Galax	1,209	$4,723	$15,759	15%	35%	15.30
48	Giles	2,558	$5,144	$20,152	10%	31%	15.30
49	Gloucester	6,358	$4,464	$22,182	6%	19%	16.10
50	Goochland	1,788	$5,807	$25,599	6%	22%	11.60
51	Grayson	2,213	$4,954	$16,271	12%	43%	13.40
52	Greene	2,166	$5,263	$23,322	9%	26%	12.70
53	Greensville	2,746	$5,672	$16,604	14%	58%	15.30
54	Halifax	5,744	$4,775	$18,052	14%	42%	14.40
55	Hampton	23,334	$4,605	$21,662	9%	37%	15.00
56	Hanover	13,440	$4,223	$29,504	3%	12%	16.10
57	Harrisonburg	3,503	$5,386	$18,399	8%	45%	12.30
58	Henrico	36,021	$5,023	$25,549	4%	26%	16.30
59	Henry	9,091	$4,610	$17,783	7%	29%	15.50
60	Highland	388	$5,782	$17,854	11%	31%	11.70
61	Hopewell	4,069	$5,296	$19,020	12%	51%	12.60
62	Isle of Wight	4,520	$5,103	$23,388	10%	34%	14.80
63	King George	2,738	$4,967	$25,354	5%	24%	14.20
64	King William	1,532	$5,218	$24,449	7%	32%	12.60
65	King & Queen	893	$6,107	$18,813	11%	67%	11.70
66	Lancaster	1,583	$4,463	$18,327	11%	46%	17.30
67	Lee	4,291	$5,064	$14,962	25%	59%	11.60
68	Loudoun	18,173	$5,657	$38,115	2%	10%	16.10
69	Louisa	3,792	$4,617	$20,640	9%	42%	17.10
70	Lunenburg	2,183	$4,525	$14,317	15%	58%	13.60
71	Lynchburg	9,325	$5,328	$18,224	13%	36%	12.80
72	Madison	1,919	$5,071	$20,687	10%	23%	12.70
73	Manassas	5,356	$5,412	$30,911	3%	18%	14.50

	School Division	Average Daily Membership	Per-Pupil Expenditure	Community Income	Percentage of Families In Poverty	Percentage of Children Receiving Free Lunch	Pupil/ Teacher Ratio (K-7)
74	Manassas Park	1,497	$4,777	$27,613	3%	30%	17.80
75	Martinsville	2,803	$5,067	$16,581	13%	40%	12.60
76	Mathews	1,268	$4,622	$20,826	6%	26%	13.20
77	Mecklenburg	5,043	$4,445	$16,212	12%	44%	13.60
78	Middlesex	1,334	$4,699	$18,637	9%	34%	13.30
79	Montgomery	8,814	$5,003	$18,960	10%	33%	17.40
80	Nelson	2,095	$5,088	$19,302	13%	33%	12.20
81	New Kent	2,043	$4,945	$28,341	4%	19%	13.30
82	Newport News	30,749	$4,844	$20,801	12%	44%	15.20
83	Norfolk	34,613	$5,444	$16,708	15%	63%	13.70
84	Northampton	2,461	$4,733	$13,287	21%	59%	14.90
85	Northumberland	1,531	$4,644	$18,023	10%	48%	19.90
86	Norton	824	$5,022	$18,146	25%	39%	15.50
87	Nottoway	2,450	$4,751	$15,697	12%	52%	14.70
88	Orange	3,795	$5,163	$21,906	5%	30%	13.00
89	Page	3,488	$4,415	$17,458	9%	31%	14.20
90	Patrick	2,592	$4,566	$18,643	11%	29%	14.50
91	Petersburg	6,131	$4,612	$14,939	15%	68%	15.00
92	Pittsylvania	9,273	$4,301	$18,489	10%	34%	13.00
93	Poquoson	2,454	$4,261	$29,960	2%	5%	16.70
94	Portsmouth	17,559	$5,139	$17,633	15%	59%	13.30
95	Powhatan	2,646	$4,534	$28,156	4%	20%	15.30
96	Prince Edward	2,602	$4,619	$16,275	17%	55%	14.30
97	Prince George	5,315	$4,674	$25,588	4%	27%	17.00
98	Prince William	45,711	$5,548	$32,423	2%	19%	15.80
99	Pulaski	5,168	$4,661	$18,749	10%	31%	14.10
100	Radford	1,488	$5,066	$17,892	10%	20%	14.40
101	Rappahannock	1,003	$5,321	$22,647	8%	19%	13.90
102	Richmond City	26,547	$7,107	$18,659	17%	64%	12.30
103	Richmond County	1,279	$4,724	$17,324	12%	34%	15.20
104	Roanoke City	12,772	$5,952	$17,094	13%	49%	12.90
105	Roanoke County	13,652	$5,341	$25,744	3%	9%	16.00
106	Rockbridge	3,166	$4,688	$18,857	10%	26%	12.80
107	Rockingham	9,984	$4,898	$21,137	5%	21%	15.10
108	Russell	4,742	$4,445	$18,088	20%	40%	14.60
109	Salem	3,754	$5,202	$21,157	3%	17%	18.00
110	Scott	3,878	$4,761	$19,210	17%	43%	12.80
111	Shenandoah	5,134	$4,795	$19,174	8%	20%	14.20
112	Smyth	5,281	$4,610	$17,816	13%	34%	13.70
113	Southampton	2,787	$4,881	$20,005	14%	48%	13.00
114	Spotsylvania	14,659	$4,580	$28,605	4%	15%	16.20

	School Division	Average Daily Membership	Per-Pupil Expenditure	Community Income	Percentage of Families in Poverty	Percentage of Children Receiving Free Lunch	Pupil/ Teacher Ratio (K-7)
115	Stafford	15,522	$4,616	$31,534	3%	13%	16.90
116	Staunton	2,920	$4,994	$18,893	7%	39%	12.40
117	Suffolk	9,493	$6,600	$19,731	14%	50%	18.50
118	Surry	1,249	$4,703	$18,743	11%	52%	14.60
119	Sussex	1,501	$5,738	$16,739	15%	75%	16.70
120	Tazewell	8,274	$4,261	$18,427	17%	36%	14.40
121	Virginia Beach	75,264	$4,736	$22,923	4%	28%	15.70
122	Warren	4,543	$4,290	$21,787	6%	18%	13.00
123	Washington	7,457	$4,542	$19,834	13%	33%	13.60
124	Waynesboro	2,864	$4,757	$19,339	9%	35%	14.80
125	West Point	719	$5,959	*	*	15%	12.60
126	Westmoreland	2,043	$4,533	$16,096	10%	65%	13.80
127	Williamsburg	6,962	$5,770	$26,754	4%	21%	13.80
128	Winchester	3,177	$6,466	$18,095	7%	35%	12.50
129	Wise	8,055	$4,658	$18,712	19%	37%	15.70
130	Wythe	4,372	$4,634	$17,546	14%	32%	13.90
131	York	10,707	$4,456	$27,051	4%	15%	16.60
	State Average		**$5,310**	**$23,649**	**8%**	**31%**	

* Unavailable

Appendix F

Data of educational results (Iowa Test of Basic Skills: Grades four and eight) for all Virginia divisions.

Virginia Education Results:
Iowa Test of Basic Skills (ITBS), Grades 4 and 8
(national norm rankings)

	School Division	Grade 4 Reading 1992/93-1995/96		Grade 4 Math 1992/93-1995/96		Grade 8 Reading 1992/93-1995/96		Grade 8 Math 1992/93-1995/96	
		ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score
1	Accomack	37	0	44	3	39	4	34	4
2	Albemarle	63	2	75	7	65	-3	59	-1
3	Alexandria	50	-4	59	-2	48	0	41	-6
4	Alleghany Highlands	58	4	60	-1	47	1	48	7
5	Amelia	44	4	45	-12	40	-2	35	-10
6	Amherst	50	-1	50	-6	53	3	47	-2
7	Appomatox	51	-6	52	-7	47	-5	53	-4
8	Arlington	70	2	80	8	70	7	70	8
9	Augusta	56	2	63	2	53	0	52	4
10	Bath	72	9	82	25	56	-1	53	2
11	Bedford	52	-3	61	-2	52	-3	51	-2
12	Bland	55	1	55	0	57	-4	46	-17
13	Botetourt	58	-4	63	4	53	-3	51	0
14	Bristol	57	0	62	-7	61	5	67	6
15	Brunswick	40	5	46	4	37	-8	38	-5
16	Buchanan	42	-1	57	-4	37	-5	36	-2
17	Buckingham	29	-12	38	-4	42	-2	32	-10
18	Buena Vista	42	7	45	6	53	10	43	-2
19	Campbell	58	-1	67	6	56	4	56	3
20	Caroline	43	1	52	9	54	12	48	15
21	Carroll	49	5	54	6	45	3	39	-1
22	Charles City	38	11	35	0	40	14	41	10
23	Charlotte	64	3	71	-3	47	4	45	0
24	Charlottesville	49	1	55	6	48	-6	50	-12
25	Chesapeake	53	1	65	5	51	1	52	5
26	Chesterfield	63	0	77	1	60	0	61	-5
27	Clarke	57	4	68	10	59	-5	51	-8
28	Colonial Beach	41	-12	55	-3	42	-1	47	4
29	Colonial Heights	64	1	68	0	59	-11	70	-8
30	Covington	46	-4	52	2	57	1	54	8
31	Craig	64	12	70	15	57	11	44	3

	School Division	Grade 4 Reading 1992/93-1995/96		Grade 4 Math 1992/93-1995/96		Grade 8 Reading 1992/93-1995/96		Grade 8 Math 1992/93-1995/96	
		ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score
32	Culpeper	51	-7	58	-1	49	-11	42	-4
33	Cumberland	31	-5	52	22	34	2	36	10
34	Danville	43	-3	47	-9	34	-8	39	-5
35	Dickenson	50	4	50	6	40	-6	34	-10
36	Dinwiddie	53	1	58	5	48	-4	43	-3
37	Essex	51	3	66	8	46	3	47	3
38	Fairfax	65	-1	78	2	62	-11	66	-8
39	Falls Church	75	9	82	7	83	3	72	-2
40	Fauquier	64	0	73	6	58	2	56	2
41	Floyd	60	-3	69	7	50	-5	49	-6
42	Fluvanna	52	0	58	0	43	-2	47	-2
43	Franklin City	41	-16	45	-13	49	2	41	-3
44	Franklin County	57	1	66	6	57	-3	58	1
45	Frederick	61	2	68	7	56	1	58	6
46	Fredericksburg	42	-2	41	-4	48	-3	42	-4
47	Galax	53	-10	51	-8	61	7	58	1
48	Giles	49	6	57	13	53	1	47	-6
49	Gloucester	52	-8	59	-4	56	-3	49	-7
50	Goochland	61	5	69	6	44	-12	47	-9
51	Grayson	51	-5	49	-13	55	10	46	7
52	Greene	51	4	59	0	47	-4	45	0
53	Greensville	38	0	42	2	35	-3	28	-10
54	Halifax	52	-1	59	2	50	0	49	-1
55	Hampton	44	-5	56	0	47	-3	40	-5
56	Hanover	64	0	70	0	64	4	55	-3
57	Harrisonburg	66	-3	72	2	67	1	68	5
58	Henrico	62	-1	74	4	59	2	61	0
59	Henry	49	6	56	8	46	-3	46	1
60	Highland	59	-12	61	-16	72	5	69	1
61	Hopewell	43	-7	49	-5	45	1	47	0
62	Isle of Wight	45	-4	47	-7	50	3	50	3
63	King George	51	1	61	-1	51	1	48	-1
64	King William	53	11	58	14	47	-6	46	-10
65	King & Queen	44	2	64	19	36	4	35	0
66	Lancaster	35	-6	36	-11	35	-26	31	-18
67	Lee	45	-7	56	-3	46	-1	40	-5
68	Loudoun	66	-1	71	-4	68	-2	67	1
69	Louisa	49	5	61	4	48	-3	53	7
70	Lunenburg	37	-1	39	7	43	0	37	-1

	School Division	Grade 4 Reading 1992/93-1995/96		Grade 4 Math 1992/93-1995/96		Grade 8 Reading 1992/93-1995/96		Grade 8 Math 1992/93-1995/96	
		ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score
71	Lynchburg	52	-1	58	0	54	1	49	-1
72	Madison	36	-15	43	-15	42	-6	34	-5
73	Manassas	67	4	72	2	61	-4	60	-7
74	Manassas Park	38	-7	42	-10	54	2	51	-3
75	Martinsville	53	1	59	0	55	5	38	-8
76	Mathews	59	-1	67	5	53	1	54	0
77	Mecklenburg	43	-2	56	-2	42	1	39	8
78	Middlesex	51	7	51	7	53	10	47	4
79	Montgomery	60	-3	69	0	60	1	57	-3
80	Nelson	52	4	52	4	58	3	47	1
81	New Kent	63	10	68	9	55	11	59	12
82	Newport News	52	1	61	2	51	-3	48	-3
83	Norfolk	46	3	59	2	38	0	35	-4
84	Northampton	41	0	55	8	48	5	45	-1
85	Northumberland	42	-7	51	7	46	9	39	3
86	Norton	49	-1	75	15	47	-11	46	-14
87	Nottoway	45	2	50	12	55	15	45	14
88	Orange	50	3	56	0	57	5	57	4
89	Page	46	-5	60	-1	48	2	45	6
90	Patrick	63	8	80	15	53	5	58	6
91	Petersburg	36	2	50	7	34	-5	28	-8
92	Pittsylvania	46	-4	53	-1	43	1	45	5
93	Poquoson	71	-3	73	-5	72	-3	71	-4
94	Portsmouth	49	1	56	2	42	0	41	3
95	Powhatan	54	1	67	0	51	-8	54	-2
96	Prince Edward	42	-7	53	1	57	8	55	6
97	Prince George	54	-2	59	-4	57	-2	57	-3
98	Prince William	59	-3	67	3	64	1	60	-2
99	Pulaski	53	1	58	1	49	-5	46	-1
100	Radford	71	-3	74	-5	73	3	72	3
101	Rappahannock	49	-9	51	-6	56	-4	46	-7
102	Richmond City	45	9	59	11	33	-4	31	-7
103	Richmond County	43	5	56	13	56	4	64	1
104	Roanoke City	49	1	57	-2	47	2	45	-1
105	Roanoke County	67	0	76	4	60	-5	61	-6
106	Rockbridge	58	0	69	8	57	4	52	6
107	Rockingham	56	-3	67	0	56	0	55	0
108	Russell	58	5	63	-4	52	5	50	0
109	Salem	67	-2	77	-2	66	-3	70	13

	School Division	Grade 4 Reading 1992/93-1995/96		Grade 4 Math 1992/93-1995/96		Grade 8 Reading 1992/93-1995/96		Grade 8 Math 1992/93-1995/96	
		ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score
110	Scott	53	2	64	3	53	-2	47	-4
111	Shenandoah	47	-6	50	0	52	-5	51	3
112	Smyth	52	-4	58	-4	54	4	53	6
113	Southampton	41	-1	44	-6	46	1	41	-1
114	Spotsylvania	54	-7	62	-4	56	0	47	-1
115	Stafford	59	-3	65	-1	64	3	63	0
116	Staunton	53	1	64	7	56	-2	53	-3
117	Suffolk	49	7	58	11	48	4	44	-1
118	Surry	49	-5	69	2	43	-4	45	0
119	Sussex	32	5	44	15	31	8	27	-2
120	Tazewell	57	0	64	3	52	-4	47	-5
121	Virginia Beach	59	3	69	1	56	-1	59	0
122	Warren	54	2	68	8	49	2	42	2
123	Washington	56	2	67	3	53	0	47	-5
124	Waynesboro	48	-14	59	-10	54	1	52	-9
125	West Point	69	7	86	11	78	5	73	5
126	Westmoreland	45	8	58	14	38	1	43	5
127	Williamsburg	63	4	61	-2	56	0	51	-2
128	Winchester	55	-6	66	6	68	9	64	5
129	Wise	44	-6	52	-5	48	2	51	2
130	Wythe	51	-3	57	0	50	1	43	-4
131	York	69	4	77	7	63	-5	57	-9

Virginia State Averages

Content Area	State Average in 1995/96	Average State Gain Score from 1992/93-1995/96
Grade 4 Reading	56	0
Grade 4 Math	66	+3
Grade 8 Reading	55	-1
Grade 8 Math	54	-2

Appendix G

Data of educational results (Literacy Passport Test: Grade Six) for all Virginia divisions.

Virginia Education Results: Literacy Passport Test (LPT) (percentage of students passing)

	School Division	Grade 6 Reading 1992/93-1995/96		Grade 6 Writing 1992/93-1995/96		Grade 6 Math 1992/93-1995/96	
		LPT 1995/96 score	4 Year Gain Score	LPT 1995/96 score	4 Year Gain Score	LPT 1995/96 score	4 Year Gain Score
1	Accomack	67.7	5.8	59.1	-8.0	68.2	-6.6
2	Albemarle	85.0	1.3	83.7	-1.2	87.2	2.6
3	Alexandria	68.8	-3.2	73.4	-4.2	71.6	-6.6
4	Alleghany Highlands	85.5	1.6	74.9	-7.1	82.4	1.6
5	Amelia	79.2	3.5	76.3	4.6	86.5	-3.1
6	Amherst	78.5	-0.5	69.9	-3.8	76.9	-11.0
7	Appomatox	78.3	-4.3	76.7	-11.2	87.9	-4.7
8	Arlington	85.4	5.9	85.3	4.8	87.2	0.9
9	Augusta	89.3	7.8	81.8	7.3	90.8	3.1
10	Bath	85.2	-1.3	85.5	5.8	87.1	10.1
11	Bedford	86.0	5.4	83.1	2.6	89.1	1.7
12	Bland	92.8	1.2	76.5	3.3	91.3	2.3
13	Botetourt	90.2	4.5	80.9	-9.0	88.3	4.7
14	Bristol	90.6	11.6	90.6	8.1	87.5	-0.5
15	Brunswick	73.1	11.6	63.7	-3.5	74.0	2.6
16	Buchanan	72.5	6.6	66.2	-4.8	72.6	-5.7
17	Buckingham	81.3	8.1	59.6	-9.3	69.6	-10.7
18	Buena Vista	83.5	2.2	92.3	1.2	91.4	-0.8
19	Campbell	85.0	-0.3	77.9	-4.1	85.4	-0.7
20	Caroline	81.6	13.9	65.2	1.1	80.0	8.3
21	Carroll	82.2	6.4	70.2	-3.7	83.9	8.0
22	Charles City	58.6	-2.0	48.2	-15.1	55.8	-26.0
23	Charlotte	87.7	9.5	81.2	6.1	94.2	9.5
24	Charlottesville	57.9	-5.5	57.7	-5.4	61.4	-6.2
25	Chesapeake	82.4	4.5	76.8	0.4	88.3	2.6
26	Chesterfield	89.7	-0.3	81.8	-5.0	87.9	-3.9
27	Clarke	87.1	4.4	81.4	-7.4	80.7	-4.8
28	Colonial Beach	75.0	-5.4	83.9	10.0	87.3	-8.3
29	Colonial Heights	85.5	-3.5	76.3	-11.6	83.9	-8.6
30	Covington	80.0	0.7	63.6	-13.8	79.1	1.1
31	Craig	86.0	-2.4	81.0	7.2	74.1	2.0

	School Division	Grade 6 Reading 1992/93-1995/96		Grade 6 Writing 1992/93-1995/96		Grade 6 Math 1992/93-1995/96	
		LPT 1995/96 score	4 Year Gain Score	LPT 1995/96 score	4 Year Gain Score	LPT 1995/96 score	4 Year Gain Score
32	Culpeper	84.6	2.3	80.7	0.9	84.0	1.4
33	Cumberland	57.0	8.1	49.4	-2.7	78.5	19.6
34	Danville	79.3	8.0	71.0	3.6	82.2	-5.0
35	Dickenson	81.3	9.4	73.6	8.4	86.7	11.9
36	Dinwiddie	87.5	7.9	82.5	5.8	93.6	7.3
37	Essex	80.8	-3.3	83.2	-0.8	87.4	-4.2
38	Fairfax	91.1	0.9	91.1	-0.4	93.0	-0.6
39	Falls Church	93.8	0.9	93.8	1.1	93.8	2.0
40	Fauquier	84.2	-2.7	80.3	-7.2	80.2	-5.9
41	Floyd	83.8	-3.9	83.7	4.6	84.1	-4.4
42	Fluvanna	80.9	3.2	76.9	7.5	82.4	0.6
43	Franklin City	75.9	-1.8	72.4	-2.4	66.2	-16.5
44	Franklin County	84.3	4.3	69.2	-10.5	86.0	-3.5
45	Frederick	86.7	-2.9	70.0	-4.8	89.9	-3.2
46	Fredericksburg	84.7	10.9	83.2	4.8	91.2	8.0
47	Galax	85.2	6.1	66.7	-14.6	90.0	15.3
48	Giles	83.5	7.6	82.4	18.3	89.5	3.9
49	Gloucester	82.9	-1.3	84.9	6.0	82.4	-5.7
50	Goochland	81.0	-3.5	73.4	-3.5	70.3	-20.8
51	Grayson	82.8	-1.8	79.0	-11.4	84.2	-4.4
52	Greene	66.2	-8.4	69.0	-0.4	70.9	-7.7
53	Greensville	76.8	14.0	76.7	14.9	81.7	4.5
54	Halifax	83.5	1.3	72.5	-1.9	87.2	-2.0
55	Hampton	80.7	-1.7	74.7	-2.5	74.5	-8.5
56	Hanover	90.4	1.7	87.9	-1.7	88.6	-3.8
57	Harrisonburg	85.8	5.0	87.1	2.0	91.1	7.6
58	Henrico	85.3	6.3	84.2	1.5	85.9	1.8
59	Henry	77.9	5.6	72.2	-6.3	87.0	1.8
60	Highland	97.2	19.4	100.0	25.9	97.2	0.9
61	Hopewell	64.4	-0.2	54.3	-15.2	70.5	-4.7
62	Isle of Wight	79.7	0.5	72.8	-0.6	83.8	-3.8
63	King George	77.4	7.3	62.1	0.5	85.0	-0.8
64	King William	80.2	13.5	66.7	10.5	87.4	0.7
65	King & Queen	94.5	30.5	89.0	10.9	97.3	22.7
66	Lancaster	56.4	-17.6	54.9	-23.5	73.5	-4.0
67	Lee	76.7	2.5	64.6	-10.5	71.5	-4.4
68	Lexington	84.5	-6.4	84.5	-4.6	84.5	-8.2
69	Loudoun	91.3	1.3	86.7	1.8	88.8	-3.0
70	Louisa	88.5	7.6	78.4	3.1	95.2	4.5

	School Division	Grade 6 Reading 1992/93-1995/96		Grade 6 Writing 1992/93-1995/96		Grade 6 Math 1992/93-1995/96	
		LPT 1995/96 score	4 Year Gain Score	LPT 1995/96 score	4 Year Gain Score	LPT 1995/96 score	4 Year Gain Score
71	Lunenburg	60.6	-9.7	51.6	-9.7	71.0	11.9
72	Lynchburg	73.2	-3.0	72.8	-5.2	79.9	-4.6
73	Madison	69.0	-11.0	70.8	-0.2	75.6	-9.5
74	Manassas	90.9	-2.5	84.1	-5.9	91.7	0.7
75	Manassas Park	76.6	-0.9	73.4	-3.3	83.9	-1.7
76	Martinsville	72.0	-1.6	74.8	0.1	84.2	8.9
77	Mathews	89.5	9.0	85.3	4.0	92.6	7.6
78	Mecklenburg	70.7	6.3	61.9	-2.3	77.0	7.1
79	Middlesex	95.1	4.6	86.3	1.2	94.1	-3.8
80	Montgomery	78.6	-4.6	80.4	0.3	81.3	-11.1
81	Nelson	86.3	3.0	79.7	6.7	94.1	16.9
82	New Kent	84.6	4.9	80.0	3.8	93.2	3.3
83	Newport News	83.6	0.9	82.4	3.8	87.5	0.1
84	Norfolk	71.0	1.8	70.4	2.3	75.4	-0.9
85	Northampton	62.1	-1.8	56.7	2.3	50.2	-23.6
86	Northumberland	71.4	7.3	75.9	0.7	72.2	7.5
87	Norton	85.2	4.2	83.3	-4.0	91.8	10.8
88	Nottoway	88.2	15.8	82.4	7.8	93.4	22.7
89	Orange	84.3	0.7	81.1	-0.6	86.7	1.6
90	Page	91.0	8.9	77.9	-3.4	95.2	7.6
91	Patrick	95.6	-0.8	94.9	0.7	98.8	1.0
92	Petersburg	69.8	8.1	51.6	-15.8	82.0	5.8
93	Pittsylvania	81.9	1.4	66.7	-6.1	78.4	-2.4
94	Poquoson	91.7	-2.9	89.4	10.5	95.6	0.5
95	Portsmouth	71.1	-3.0	69.7	-2.4	74.9	-8.1
96	Powhatan	85.0	2.1	74.4	-11.6	69.8	-7.9
97	Prince Edward	89.5	7.2	76.9	10	84.5	9.0
98	Prince George	82.0	-3.4	71.7	-5.9	86.9	-2.0
99	Prince William	84.6	0.9	84.4	-1.9	83.1	-7.2
100	Pulaski	79.7	1.7	67.6	-11.8	83.3	-0.2
101	Radford	95.3	-0.4	90.7	-4.0	94.4	0.8
102	Rappahannock	71.6	-22.7	60.8	-33.4	77.0	-11.6
103	Richmond City	62.3	9.7	60.0	-4.3	65.5	1.3
104	Richmond County	72.0	-9.3	70.4	-15.3	84.1	-9.1
105	Roanoke City	74.9	-4.4	73.0	-9.3	76.2	-7.6
106	Roanoke County	88.2	-2.5	79.7	-10.7	90.4	-1.4
107	Rockbridge	87.1	-2.0	76.2	-12.3	89.8	-1.2
108	Rockingham	83.6	0.5	80.0	-5.8	85.6	-5.3
109	Russell	88.5	6.3	80.1	-1.1	89.5	5.7

	School Division	Grade 6 Reading 1992/93-1995/96		Grade 6 Writing 1992/93-1995/96		Grade 6 Math 1992/93-1995/96	
		LPT 1995/96 score	4 Year Gain Score	LPT 1995/96 score	4 Year Gain Score	LPT 1995/96 score	4 Year Gain Score
110	Salem	89.3	3.2	89.2	1.7	86.4	-8.2
111	Scott	73.1	-2.1	62.5	-16.2	70.0	-11.0
112	Shenandoah	82.8	-7.9	81.3	-7.9	85.7	-4.1
113	Smyth	86.8	3.8	84.2	0.8	90.8	7.6
114	South Boston	*	-5.0	*	-10.7	*	-15.0
115	Southampton	70.9	-2.6	57.5	-12.4	69.9	-5.8
116	Spotsylvania	84.7	-0.1	79.5	-2.6	87.8	-0.4
117	Stafford	88.8	1.8	85.5	1.0	88.0	-1.9
118	Staunton	83.1	-2.1	83.2	2.9	88.5	-2.3
119	Suffolk	73.0	-3.8	73.2	3.7	79.8	-3.9
120	Surry	86.6	2.5	70.5	-9.9	94.6	5.8
121	Sussex	61.8	3.0	49.5	-16.2	79.8	19.6
122	Tazewell	77.7	-1.1	69.8	-2.5	77.2	-4.5
123	Virginia Beach	87.9	1.8	86.3	0.8	91.7	-1.4
124	Warren	78.8	6.0	76.5	6.9	89.9	11.0
125	Washington	72.7	-7.0	70.6	-8.5	81.7	-8.7
126	Waynesboro	80.1	-6.2	82.4	-7.9	80.9	-11.8
127	West Point	92.8	-4.9	85.3	-10.0	94.2	-3.5
128	Westmoreland	75.8	-1.3	62.4	-11.6	80.2	-5.4
129	Williamsburg	86.2	6.3	80.1	-2.3	86.3	2.1
130	Winchester	88.6	3.3	83.5	12.6	92.9	0.0
131	Wise	86.0	1.2	73.3	-6.6	84.6	-4.7
132	Wythe	79.7	-0.8	79.9	4.0	81.8	-1.2
133	York	89.5	-0.1	84.1	2.7	90.6	-1.8

* Unavailable

Virginia State Average Passing Rates
Literacy Passport Test

Content Area	State Average in 1995/96	Average State Gain Score from 1992/93-1995/96
Grade 6 Reading	83.3	+1.7
Grade 6 Writing	79.5	-1.3
Grade 6 Math	85.2	-1.4

Appendix H

Data of educational results (Iowa Test of Basic Skills Grade eleven) for all Virginia divisions.

Virginia Education Results:
Iowa Test of Basic Skills (ITBS), Grade 11
(national norm rankings)

	School Division	Grade 11 Reading 1992/93-1995/96		Grade 11 Math 1992/93-1995/96		Grade 11 Science 1992/93-1995/96		Grade 11 Social Studies 1992/93-1995/96	
		ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score
1	Accomack	39	-3	36	-3	46	-3	43	-5
2	Albemarle	66	1	63	-1	76	4	64	1
3	Alexandria	48	-3	53	-4	56	0	50	0
4	Alleghany Highlands	47	-12	44	-8	54	-10	42	-16
5	Amelia	32	-16	36	-12	49	-6	44	-2
6	Amherst	44	-1	35	-6	51	-3	46	1
7	Appomatox	38	-3	37	0	56	6	35	-3
8	Arlington	58	-1	59	-3	70	-1	62	-4
9	Augusta	53	-1	50	2	69	7	56	2
10	Bath	51	-11	43	-24	67	-6	60	-12
11	Bedford	52	2	46	-1	60	0	52	-4
12	Bland	63	10	68	13	69	12	68	7
13	Botetourt	58	-1	54	1	65	3	53	-4
14	Bristol	52	-3	50	-8	61	-6	50	-3
15	Brunswick	31	-11	30	-8	35	-12	31	-17
16	Buchanan	39	2	32	3	43	5	35	1
17	Buckingham	43	1	43	9	50	5	47	5
18	Buena Vista	33	-30	28	-29	50	-17	40	-12
19	Campbell	48	-7	43	-7	59	-2	53	-5
20	Caroline	42	-3	37	-4	51	5	49	4
21	Carroll	39	-1	32	-2	50	3	38	-4
22	Charles City	26	4	31	-4	34	5	37	15
23	Charlotte	44	3	47	2	51	3	50	6
24	Charlottesville	66	10	56	-3	72	6	64	4
25	Chesapeake	51	-3	49	-3	62	1	53	-4
26	Chesterfield	63	-1	62	-2	71	-1	64	-1
27	Clarke	59	-1	54	-4	69	0	63	-6
28	Colonial Beach	38	-6	40	-1	51	4	44	-5
29	Colonial Heights	68	0	72	0	79	6	67	0
30	Covington	53	1	46	-3	64	9	54	3
31	Craig	50	-5	42	-6	67	5	52	-2

	School Division	Grade 11 Reading 1992/93-1995/96		Grade 11 Math 1992/93-1995/96		Grade 11 Science 1992/93-1995/96		Grade 11 Social Studies 1992/93-1995/96	
		ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score
32	Culpeper	56	0	42	-3	61	2	57	-1
33	Cumberland	30	-7	23	-9	35	-11	30	-21
34	Danville	49	3	46	-1	57	5	52	1
35	Dickenson	44	0	37	-2	53	3	41	-8
36	Dinwiddie	53	2	44	-1	59	4	54	-2
37	Essex	47	3	42	0	56	5	50	7
38	Fairfax	69	-2	73	-1	78	1	72	-1
39	Falls Church	80	2	77	3	84	1	78	-2
40	Fauquier	56	-4	54	-6	66	3	56	-7
41	Floyd	50	-3	45	2	61	2	54	-1
42	Fluvanna	46	0	47	5	54	0	49	2
43	Franklin City	42	-8	34	-9	49	-5	36	-14
44	Franklin County	53	0	47	-1	63	3	53	-6
45	Frederick	58	-2	55	-2	67	4	61	-2
46	Fredericksburg	61	-2	59	-4	63	-12	63	-6
47	Galax	51	-3	47	-5	49	-7	47	-6
48	Giles	56	13	56	17	67	16	53	11
49	Gloucester	55	-1	48	-6	59	-2	49	-4
50	Goochland	57	11	51	4	67	9	60	6
51	Grayson	46	-6	31	-11	47	-12	43	-8
52	Greene	51	-4	47	-10	52	-14	47	-2
53	Greensville	34	0	24	-10	39	0	33	-9
54	Halifax	45	3	42	2	48	4	46	2
55	Hampton	48	-3	47	0	56	0	53	-2
56	Hanover	58	-6	55	-1	70	-2	58	-3
57	Harrisonburg	55	-3	56	2	66	-2	55	-5
58	Henrico	59	-4	57	-4	69	-1	61	-3
59	Henry	47	0	44	2	57	2	50	-2
60	Highland	61	17	59	21	71	26	61	15
61	Hopewell	41	-7	41	-8	54	-3	49	-7
62	Isle of Wight	47	0	45	-5	60	9	50	-3
63	King George	55	-1	50	3	65	5	58	1
64	King William	45	-1	42	0	52	-8	42	-4
65	King & Queen	33	-7	28	-10	35	-12	36	-15
66	Lancaster	51	3	42	-10	62	-2	52	-4
67	Lee	44	-2	43	0	54	7	52	2
68	Loudoun	64	-1	64	-3	73	3	66	1
69	Louisa	47	-2	49	6	61	1	49	-5
70	Lunenburg	45	-5	39	-14	55	-11	49	-12

	School Division	Grade 11 Reading 1992/93-1995/96		Grade 11 Math 1992/93-1995/96		Grade 11 Science 1992/93-1995/96		Grade 11 Social Studies 1992/93-1995/96	
		ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score
71	Lynchburg	55	7	53	12	60	6	53	2
72	Madison	47	0	35	-8	56	-1	51	7
73	Manassas	54	-6	57	-6	70	-1	61	0
74	Manassas Park	55	11	47	6	60	16	61	14
75	Martinsville	48	-5	48	-2	54	-4	53	-5
76	Mathews	48	-2	47	1	57	-7	52	-8
77	Mecklenburg	36	-5	33	0	43	2	40	-3
78	Middlesex	59	-3	54	-2	64	-8	57	-14
79	Montgomery	56	-3	57	1	67	-3	55	-6
80	Nelson	55	5	47	5	65	13	55	3
81	New Kent	48	-5	46	-15	60	-6	54	-1
82	Newport News	52	-2	53	-1	60	0	56	-1
83	Norfolk	44	2	42	1	58	6	50	2
84	Northampton	44	5	44	2	51	4	45	-4
85	Northumberland	43	-10	50	-7	59	-7	54	-7
86	Norton	59	-3	62	2	61	5	58	-8
87	Nottoway	28	-10	31	-1	47	5	34	-9
88	Orange	47	-1	44	2	62	2	48	-1
89	Page	46	-1	38	-5	52	8	49	4
90	Patrick	52	11	50	8	57	10	48	6
91	Petersburg	46	2	41	2	41	1	43	0
92	Pittsylvania	45	-3	36	-4	50	0	44	-4
93	Poquoson	68	1	72	3	77	3	72	8
94	Portsmouth	42	0	45	6	59	12	54	10
95	Powhatan	58	0	56	1	67	1	54	-12
96	Prince Edward	50	12	46	8	49	8	44	5
97	Prince George	64	1	65	2	72	3	66	-1
98	Prince William	60	-4	59	-3	71	0	64	-3
99	Pulaski	54	-1	47	-6	59	-3	51	-7
100	Radford	68	4	71	4	77	3	71	4
101	Rappahannock	55	-2	50	-10	50	-2	48	-9
102	Richmond City	43	0	45	5	49	6	48	-2
103	Richmond County	51	-9	59	-6	59	-14	50	-11
104	Roanoke City	45	-1	45	2	60	7	53	4
105	Roanoke County	63	1	61	1	72	-1	65	-1
106	Rockbridge	51	-4	47	-2	63	4	50	-3
107	Rockingham	51	-1	47	-2	61	4	52	2
108	Russell	45	-1	45	3	52	1	43	-5
109	Salem	64	0	63	-7	74	6	66	1

	School Division	Grade 11 Reading 1992/93-1995/96		Grade 11 Math 1992/93-1995/96		Grade 11 Science 1992/93-1995/96		Grade 11 Social Studies 1992/93-1995/96	
		ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score	ITBS 1995/96 score	4 Year Gain Score
110	Scott	45	-7	43	-10	54	-5	43	-11
111	Shenandoah	56	4	45	-4	68	9	62	7
112	Smyth	46	-6	44	1	56	-3	48	-6
113	Southampton	44	-2	38	-4	51	-1	46	-6
114	Spotsylvania	56	0	48	-2	66	3	57	-3
115	Stafford	60	1	58	0	72	9	61	3
116	Staunton	50	-8	42	-12	56	-14	49	-14
117	Suffolk	36	-7	32	-9	40	-6	34	-8
118	Surry	43	-8	42	-6	54	-6	49	0
119	Sussex	27	-3	29	-2	35	-3	34	2
120	Tazewell	51	-2	50	2	57	1	51	0
121	Virginia Beach	59	-1	58	-2	71	1	59	-3
122	Warren	42	-3	39	-15	57	-8	53	-6
123	Washington	50	0	47	-3	60	1	50	1
124	Waynesboro	39	-11	40	-15	57	0	39	-8
125	West Point	71	13	76	19	82	17	74	14
126	Westmoreland	43	9	42	0	51	13	49	5
127	Williamsburg	50	-11	52	-11	57	-10	52	-6
128	Winchester	63	-5	61	-4	73	0	71	-1
129	Wise	47	-4	48	1	54	1	44	-8
130	Wythe	45	-6	41	-5	51	1	44	-5
131	York	68	0	70	2	75	2	70	2

Virginia State Average
Iowa Test of Basic Skills

Content Area	State Average in 1995/96	Average State Gain Score from 1992/93-1995/96
Grade 11 Reading	56	-2
Grade 11 Math	56	-1
Grade 11 Science	66	+1
Grade 11 Social Studies	57	-3

Appendix I

Percentage of College Freshmen Enrolled In Remedial Courses
At Virginia's State-Supported Institutions: 1993-1994

School Division	Percentage
Accomack	36.27
Albemarle	14.67
Alexandria	28.42
Alleghany Highlands	50.63
Amelia	34.21
Amherst	27.96
Appomatox	19.05
Arlington	25.63
Augusta	24.43
Bath	18.75
Bedford	23.56
Bland	16.67
Botetourt	25.00
Bristol	20.00
Brunswick	42.86
Buchanan	27.22
Buckingham	33.33
Buena Vista	31.25
Campbell	26.27
Caroline	28.95
Carroll	38.78
Charles City	50.00
Charlotte	41.67
Charlottesville	28.75
Chesapeake	35.13
Chesterfield	26.44
Clarke	11.63
Colonial Beach	40.00
Colonial Heights	30.28
Covington	25.00
Craig	11.11
Culpeper	26.53
Cumberland	27.27
Danville	36.11
Dickenson	40.63
Dinwiddie	48.61
Essex	24.00
Fairfax*	17.00
Falls Church	24.44
Fauquier	24.87
Floyd	20.45
Fluvanna	15.22
Franklin City	17.98
Franklin County	17.65
Frederick	20.47
Fredericksburg	29.03

School Division	Percentage
Galax	11.76
Giles	38.89
Gloucester	28.00
Goochland	22.86
Grayson	37.14
Greene	21.43
Greensville	66.67
Halifax	28.28
Hampton	34.38
Hanover	26.10
Harrisonburg	12.68
Henrico	24.09
Henry	34.58
Highland	62.50
Hopewell	41.33
Isle of Wight	31.76
King George	19.64
King William	27.59
King & Queen	14.29
Lancaster	26.67
Lee	55.17
Loudoun	22.63
Louisa	43.40
Lunenburg	39.39
Lynchburg	20.24
Madison	22.50
Manassas City	20.20
Manassas Park	31.58
Martinsville	34.62
Mathews	37.14
Mecklenburg	30.61
Middlesex	33.33
Montgomery	28.17
Nelson	25.49
New Kent	41.86
Newport News	28.65
Norfolk	35.06
Northampton	31.25
Northumberland	29.55
Norton	42.11
Nottoway	31.43
Orange	30.95
Page	32.00
Patrick	36.00
Petersburg	60.49
Pittsylvania	42.22

School Division	Percentage
Poquoson	28.40
Portsmouth	43.98
Powhatan	35.42
Price Edward	38.10
Prince George	31.01
Prince William	18.62
Pulaski	28.28
Radford	32.69
Rappahannock	0.00
Richmond City	37.46
Richmond County	21.43
Roanoke City	33.95
Roanoke County	18.27
Rockbridge	30.16
Rockingham	18.71
Russell	35.71
Salem	22.88
Scott	34.55
Shenandoah	17.05
Smyth	31.93

School Division	Percentage
Southampton	26.19
Spotsylvania	19.43
Stafford	21.02
Staunton	20.41
Suffolk	42.46
Surry	44.00
Sussex	55.56
Tazewell	21.32
Virginia Beach	31.47
Warren	23.08
Washington	27.87
Waynesboro	2.17
West Point	29.17
Westmoreland	21.88
Williamsburg	19.35
Winchester	33.90
Wise	41.05
Wythe	43.81
York	19.67
State Average	**26.06**

Source: Academic Performance Characteristics: In-State First-Time Freshmen At Virginia's State-Supported Institutions, 1993-1994. State Council of Higher Education for Virginia.

*The percentages in Fairfax County, which has 23 high schools, range from a high of 57.14% to a low of 0%.

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